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A REVIEW OF THE SCIENTIFIC AND TECHNOLOGICAL ISSUES IN THE REGULATION OF COTTON DUST IN PRIMARY COTTON TEXTILE INDUSTRY

REPORT

BY THE

COMMITTEE ON SCIENCE AND
TECHNOLOGY

together with

MINORITY VIEWS

MAY 24, 1983.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

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LETTER OF SUBMITTAL

U.S. House of Representatives,
Washington, D.C., May 24, 1983.

Hon. Thomas P. O'Neill, Jr.,
The Speaker, U.S. House of Representatives,
Washington, D.C.

Dear Mr. Speaker: By direction of the Committee on Science and Technology, I submit herewith the Committee's report to the 98th Congress. The Committee's report is based on an investigative study made by its Investigations and Oversight Subcommittee.

Don Fuqua, *Chairman.*

Enclosure.

LETTER OF TRANSMITTAL

House of Representatives,
Committee on Science and Technology,
Washington, D.C., May 24, 1983.

Hon. Don Fuqua,
Chairman, Committee on Science and Technology,
U.S. House of Representatives.

Dear Mr. Chairman: I am pleased to submit the report of the Subcommittee on Investigations and Oversight on the science and technology involved in the regulation of cotton dust. The report is based on a hearing held by the Subcommittee on September 22, 1982.

In 1979, the U.S. Department of Labor estimated that nearly 560,000 workers were annually exposed to cotton dust and that 84,000 of them had some form of byssinosis—brown lung disease. Byssinosis is a respiratory ailment that results from the inhalation of cotton dust.

In 1978 the Occupational Safety and Health Administration (OSHA) issued a cotton dust standard after a rulemaking proceeding that lasted over 40 months. The standard set limits on the amount of cotton dust to which a cotton textile worker could be exposed in the workplace. The standard mandated permissible exposure levels (PEL) of 200 micrograms of cotton dust/cubic meter of air for the yarn manufacturing process and 750 micrograms/cubic meter of air for slashing and weaving operations. The textile industry challenged the cotton dust standard, especially the 200 microgram PEL, in court, but in June 1981 the United States Supreme Court upheld the standard.

On February 9, 1982, OSHA issued an Advanced Notice of Proposed Rulemaking (ANPR) in which the agency stated its intention to reconsider the cotton dust standard. The ANPR stated that "new health data" had come to OSHA's attention that warranted review of the PEL.

At our hearing, the Subcommittee examined the substance and quality of the scientific evidence on the relationship between byssinosis and exposure to cotton dust, including the new data cited by OSHA. The Subcommittee also examined the state of dust control technology and the foreseeable technological advances in engineering controls for cotton dust.

As a result of the testimony received by the Subcommittee, as well as other information made available to us, the Subcommittee makes the following findings:

The scientific data clearly supports the existence of a relationship between cotton dust exposure and acute byssinosis. While the scientific data on the relationship between cotton dust exposure and chronic byssinosis is not as clear, the evidence supportive of such a relationship is strong.

The technology to control most cotton dust exposures is currently available. Moreover, the textile industry is already substantially in compliance with the cotton dust standard. While some technology development is necessary to realize total compliance, there do not appear to be any major technological obstacles to the achievement of full compliance with the permissible exposure levels mandated by the standard.

The present Occupational Safety and Health Administration has not paid sufficient attention to recommendations from the National Institute for Occupational Safety and Health (NIOSH) and its own science staff in evaluating the health effects data on byssinosis. Despite reviews by NIOSH and OSHA staff discrediting the new health data and urging that it be disregarded by OSHA, OSHA policymakers reopened the cotton dust record and proceeded with their review of the PEL based on this data.

The quality of the "new" health effects data cited by OSHA does not support a relaxation of the PEL. Moreover, the quality of new data does not justify OSHA's initial decision to utilize its limited scientific resources to reopen the record on the PEL. OSHA provided no valid scientific justification for its decision to reconsider the PEL and demonstrated no valid scientific basis to revise it.

In line with these findings, the Subcommittee makes the following recommendations:

In light of the strong evidence indicating a relationship between cotton dust exposure and chronic byssinosis, OSHA should adopt a cautious approach to its decisionmaking on the cotton dust standard.

OSHA should factor into its decisionmaking on the cotton dust standard a study prepared by the Congressional Office of Technology Assessment (OTA) on the effect of the standard on the textile industry. The OTA study demonstrates that the dust control technology to ensure compliance with the 200ugs/m^3 PEL is generally available and that the technology to eliminate the few areas of noncompliance will soon be developed. Moreover, the study reveals that the textile industry is already substantially in compliance with the cotton dust standard and that productivity in the industry has increased substantially since the standard's implementation.

OSHA policymakers should give great weight to the views of OSHA and NIOSH scientists in making decisions that involve the evaluation of scientific data.

OSHA should discontinue its review of the PEL and certainly not relax it.

The accompanying report discusses the Subcommittee's findings and recommendations in detail.

Finally, I wish to express my appreciation to Mr. Michael Simpson and Ms. Lynne Crowley, both Analysts in the Science Policy Research Division of the Congressional Research Service, for their assistance in helping the Subcommittee prepare this report.

Sincerely,

ALBERT GORE, JR.,
Chairman, Subcommittee on Investigations and Oversight.

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98TH CONGRESS } HOUSE OF REPRESENTATIVES { REPORT
1st Session } { No. 98-215

A REVIEW OF THE SCIENTIFIC AND TECHNOLOGICAL ISSUES IN THE REGULATION OF COTTON DUST IN PRIMARY COTTON TEXTILE INDUSTRY

MAY 24, 1983.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. FUQUA, from the Committee on Science and Technology, submitted the following

REPORT

together with

MINORITY VIEWS

[Based on an investigative study by the Investigations and Oversight Subcommittee]

On May 12, 1983, the Committee on Science and Technology approved and adopted a report entitled "A Review of the Scientific and Technological Issues in the Regulation of Cotton Dust in Primary Textile Industry." The Chairman was directed to transmit a copy to the Speaker of the House.

I. INTRODUCTION

A. Background and Chronology

On September 22, 1982, the Subcommittee on Investigations and Oversight held hearings on the scientific and technological controversy surrounding the regulation of cotton dust in the primary cotton textile industry. The hearings stemmed from concern about the quality of "new health data" on byssinosis cited by the Occupational Safety and Health Administration (OSHA) in February 1982 as justification for a review of OSHA's cotton dust standard. The new health data consisted of information on the prevalency of byssinosis among textile workers supplied to OSHA by the American Textile Manufacturers Institute (ATMI) and a report on byssinosis prepared by the National Academy of Sciences (NAS).

In 1979 the United States Department of Labor estimated that nearly 560,000 workers were exposed to cotton dust in the United States and that there were 84,000 cases of byssinosis among active textile workers.[1] While the exact cause of byssinosis is not understood, the evidence supporting the existence of a relationship between byssinosis and cotton dust exposure is sufficiently strong that Congressional concern over byssinosis was a chief factor in the passage of the Occupational Safety and Health Act in 1970.

The regulations now in effect governing worker exposure to cotton dust in the textile industry were promulgated in their final form by OSHA on June 23, 1978.[2] As presently written, the regulations establish a two-part standard for the maximum permissible exposure level (PEL) to cotton dust in textile plants. The regulations set the PEL at 200 ugs/m3 (micrograms of dust per cubic meter of air) for yarn manufacturing and 750 ugs/m3 for slashing and weaving operations. The standard covers all stages of the manufacturing process.

The most controversial aspect of the cotton dust regulations has been the 200 ugs/m3 PEL for yarn manufacturing. When the Occupational Safety and Health Act was enacted in 1970, cotton dust was listed as one of the five occupational hazards targeted for special compliance.[3]

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[1] U.S. Department of Labor, Report to Congress: Cotton Dust: Review of Alternative Technical Standards and Control Technologies 1 (May 1979) [hereinafter cited as Report to the Congress].

[2] 43 Fed. Reg. 27350 (1978) (codified at 29 C.F.R. 1910.1043).

Because of this special emphasis given to cotton dust, OSHA initially adopted, as an interim regulation, a 1000 ugs/m3 standard for all textile processes that had previously been put into effect in 1968 by the Federal Government for federal contracts under the Walsh-Healy Act.[4] In 1974, as research on byssinosis revealed the need for a lower dust exposure level, the American Conference of Governmental Industrial Hygienists (ACGIH) and the National Institute for Occupational Safety and Health (NIOSH) recommended to OSHA that the PEL be lowered to 200 ugs/m3.[5] In December 1974, OSHA issued an Advanced Notice of Proposed Rulemaking (ANPR) declaring its intent to develop regulations dealing with cotton dust exposure.[6]

In December 1976, OSHA proposed a 200 ugs/m3 standard for nearly all stages of cotton processing.[7] After receiving comments on its proposed standard, holding a series of hearings, reviewing medical studies, and examining the costs to industry of compliance, OSHA modified its proposal and issued its final variable standard in June 1978.[8] In the final standard, OSHA maintained the 200 ugs/m3 level for the yarn manufacturing process but instituted the higher 750 ugs/m3 level for slashing and weaving operations. Compliance with the standard was required within four years.

The textile industry opposed the 200 ugs/m3 standard before its final publication and continued its opposition once the rule became final. The industry challenged the standard in court essentially on the ground that it could not be justified under a cost-benefit analysis. The case wound its way through the courts over the next three years. Finally, on June 17, 1981, in ATMI v. Donovan,[9] the United States Supreme Court upheld the standard.

While the textile industry's challenge to the cotton dust standard was nearing resolution by the Supreme Court, the Reagan Administration had taken office and attempted to have the Court delay its ruling pending a review of the standard by the new Administration.[10]

The Reagan Task Force for Regulatory Relief had targeted the cotton dust standard for review and attempted to revise

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[3] See S. Rep. No. 91-1282, 91st Congress, 2nd Sess. 3, 143 (1971); Report to the Congress, supra note 1, at 4.
[4] See 43 Fed. Reg. at 27351; Report to the Congress, supra note 1, at 4.
[5] Id. Report to the Congress, supra note 1, at 4-5.
[6] 39 Fed. Reg. 44769 (1974).
[7] 41 Fed. Reg. 56498 (1976); Report to the Congress, supra note 1, at 5.
[8] 43 Fed. Reg. 27350 (1978) (codified at 29 C.F.R. 1910.1043); Report to the Congress, supra note 1, at 6.
[9] 452 U.S. 490 (1981)
[10] 452 U.S. at 505 n.25

it because of the new Administration's concern over the cost of the standard to industry. A cotton dust review team was set up within OSHA to review the standard, and in March 1981, OSHA issued an ANPR declaring its purpose to reconsider the standard from a cost-benefit perspective.[11]

OSHA halted its cost-benefit review after the Supreme Court upheld the cotton dust standard. In its opinion in ATMI, the Court had explicitly ruled that evaluation of the standard on a cost-benefit basis was impermissible.[12]

Although OSHA halted its cost-benefit review, the agency did not dismantle its cotton dust team. Instead, the team continued in operation and prepared a series of options memoranda for OSHA policymakers discussing alternative bases for reviewing the cotton dust standard.[13]

On February 9, 1982, OSHA issued another ANPR regarding the cotton dust standard.[14] It was in this ANPR that OSHA stated that "new health data" about byssinosis had come to its attention that warranted reconsideration of the cotton dust standard.

The Subcommittee's hearing in September 1982 focused on OSHA's reconsideration of the 200 ugs/m^3 PEL and scientific evidence relating to that consideration.

B. Issues

The Subcommittee focused on four general issues in its examination of the cotton dust controversy:

(1) What is the weight of the evidence on the relationship between cotton dust exposure and byssinosis?

(2) Is the technology to control cotton dust available?

(3) How has OSHA utilized its scientific staff and that of NIOSH in evaluating health effects data on byssinosis?

(4) Was the new health effects data on byssinosis of sufficient validity or import to justify the use of limited scientific resources to reopen the record on the cotton dust standard?

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[11] 46 Fed. Reg. 19502 (1981). See materials compiled as Appendix 1 to this report.

[12] ___ U.S. at ___, 508-12

[13] See Appendix 2 to this report.

[14] 47 Fed. Reg. 5906 (1982).

C. Witnesses

The Subcommittee heard testimony from eleven witnesses representing the scientific community, industry, labor, and government. Mr. Thorne G. Auchter, the Administrator of OSHA, was scheduled to testify but was unable to appear before the Subcommittee due to a sudden illness. The witnesses and the panels on which they testified were:

Scientific Panel:

Dr. Harold Imbus, M.D., Sc.D.
Health and Hygiene, Inc.

Professor James A. Merchant, M.D.
University of Iowa College of Medicine

Dr. Jerome Kleinerman, M.D., Chairman
Mt. Sinai Department of Pathology

Dr. Donald Millar, Director
National Institute for Occupational Safety & Health

OSHA:

Mr. Thorne G. Auchter
Assistant Secretary for Occupational Safety & Health
U. S. Department of Labor (not present)

Industry Panel: Control Technology:

Mr. John Lumsden, Vice President
ELB Associates, Inc.

Mr. John Brooks, Commissioner
North Carolina Department of Labor

Dr. Ruth Ruttenberg
Ruttenberg & Associates

Percy L.D. Thackston, Executive Vice President
The Bahnson Company
(Representing American Textile Machinery Association)

Industry Panel: Trade Associations and Unions:

Mr. James H. Martin, President
Ti-Caro, Inc.
(Representing American Textile Manufacturers Institute)

Dr. Philip Wakelyn
Manager of Environment and Safety Technology
National Cotton Council of America

Mr. Scott Hoyman, Executive Vice President
Amalgamated Clothing & Textile Workers Union.

II. FINDINGS AND RECOMMENDATIONS

Based on the testimony presented to the Subcommittee at its hearing, information received by the Subcommittee from OSHA pursuant to formal requests, and responses by the witnesses to supplemental written questions submitted to them by the Subcommittee, the Subcommittee makes the following findings and recommendations with regard to the issues examined at its hearing:

A. The Relationship Between Byssinosis and Cotton Dust

Issue: What is the weight of the evidence on the relationship between cotton dust exposure and byssinosis?

Finding: The testimony presented to the Subcommittee indicated that the available scientific data clearly supports the existence of a relationship between cotton dust exposure and acute byssinosis. The testimony revealed that disagreement exists regarding the relationship between cotton dust and chronic byssinosis. The testimony also indicated, however, that while the scientific data on the relationship between cotton dust exposure and chronic byssinosis is not as clear as that for acute byssinosis, the evidence supportive of such a relationship is strong.

Recommendation: The Subcommittee recommends that in light of the strong evidence indicating a relationship between cotton dust exposure and chronic byssinosis, OSHA should adopt a cautious approach to its decisionmaking on the cotton dust standard.

B. Dust Control Technology

Issue: Is the technology to control cotton dust available?

Finding: The testimony presented to the Subcommittee indicated that the technology to control most cotton dust exposures is currently available. The testimony also revealed, moreover, that the textile industry is already substantially in compliance with the cotton dust standard. While some technology development is necessary to realize total compliance, the testimony indicated that there do not appear to be any major technological obstacles to the achievement of full compliance with the permissible exposure levels mandated by the standard.

Recommendation: The Subcommittee recommends that OSHA factor into its decisionmaking on the cotton dust standard a study prepared by the Congressional Office of Technology Assessment (OTA) on the effect of the standard on the textile industry. The OTA study demonstrates that the dust control technology to ensure complete compliance with the 200 ugs/m^3 PEL is generally available and that the technology to eliminate the few areas of noncompliance will soon be developed. Moreover, the study reveals that the textile industry is already substantially in compliance with the cotton dust standard and that productivity in the industry has increased substantially since the standard's implementation.

C. Scientific Staff

Issue: How has OSHA utilized its scientific staff and that of NIOSH in evaluating health effects data on byssinosis?

Finding: The testimony and materials presented to the Subcommittee indicated that the present Occupational Safety and Health Administration has not paid sufficient attention to recommendations from the National Institute for Occupational Safety and Health (NIOSH) and its own science staff in evaluating the health effects data on byssinosis. Despite reviews by NIOSH and the OSHA staff discrediting the new health data and urging that it be disregarded by OSHA, OSHA policymakers reopened the cotton dust record and proceeded with their review of the PEL based on this data.

Recommendation: The Subcommittee recommends that OSHA policymakers give great weight to the views of OSHA and NIOSH scientists in making decisions that involve the evaluation of scientific data.

D. The New Health Data

Issue: Was the new health effects data on byssinosis of sufficient validity or import to justify the use of limited scientific resources to reopen the record on the permissible exposure levels of the cotton dust standard?

Finding: The testimony and materials presented to the Subcommittee indicated that the quality of the "new" health effects data -- surveys and a study by the American Textile Manufacturers Institute (ATMI) and a National Academy of Sciences (NAS) report -- cited by OSHA does not support a relaxation of the PEL. Moreover, the testimony and materials support the conclusion that the quality of the new data does not justify OSHA's initial decision to utilize its limited scientific resources to reopen the record on the PEL. The new health data relied upon by OSHA has been discredited and criticized by academic scientists, NIOSH, and members of OSHA's own science staff. OSHA suffers from scarce resources, and numerous occupational safety and health problems exist for which no standard has yet even been proposed. A threshold of valid contrary scientific data should be required before limited resources are expended to review existing health and safety standards. No such threshold of evidence is present in this case. OSHA provided no valid scientific justification, either at the hearing or in response to the Subcommittee's written questions, for its decision to reconsider the standard's PEL and demonstrated no valid scientific basis to revise it.

Recommendation: The Subcommittee recommends that OSHA discontinue its review of the 200 ugs/m^3 and certainly not relax the permissible exposure level. The Subcommittee also recommends that the raw worker health data upon which the ATMI byssinosis study was based be made available to responsible outside parties for review and evaluation. A major criticism of the ATMI study is that the raw data was compiled and evaluated only by the textile companies themselves and has not been subjected to independent scientific review.

III. DISCUSSION OF ISSUES, FINDINGS, AND RECOMMENDATIONS

A. The Relationship Between Byssinosis and Cotton Dust

Issue: What is the weight of the evidence on the relationship between cotton dust exposure and byssinosis?

Finding: The testimony presented to the Subcommittee indicated that the scientific data clearly supports the existence of a relationship between cotton dust exposure and acute byssinosis. The testimony revealed that disagreement exists regarding the relationship between cotton dust and chronic byssinosis. The testimony also indicated, however, that while the scientific data on the relationship between cotton dust exposure and chronic byssinosis is not as clear as that for acute byssinosis, the evidence supportive of such a relationship is strong.

Recommendation: The Subcommittee recommends that in light of the strong evidence indicating a relationship between cotton dust exposure and chronic byssinosis, OSHA should adopt a cautious approach to its decisionmaking on the cotton dust standard.

Discussion: Based on the testimony presented at its hearing, the Subcommittee concludes that the weight of scientific evidence overwhelmingly demonstrates the connection between exposure to cotton dust and acute byssinosis among cotton textile workers. The panel of scientists who presented testimony at the hearing all agreed that such a relationship exists, although Dr. Harold Imbus voiced some concern about science's ability to predict the dust exposure level at which a byssinotic response is prompted. Moreover, several scientific studies discussed at the hearing also all support the existence of a relationship between cotton dust and acute byssinosis.

The Subcommittee also believes that very strong scientific evidence indicates that a causal relationship exists between exposure to cotton dust and chronic byssinosis. Disagreements were aired during the Subcommittee's hearing about the validity of such a conclusion, but the testimony at the hearing indicated that the more reliable data supports that opinion. The key point of contention is the extent to which irritants such as cigarette smoke contribute to the onset of the chronic respiratory ailment manifested in cotton testile workers. Scientists who deny the existence of a relationship between chronic byssinosis and cotton dust argue that no connection exists between the presence of the chronic lung disorder and the length and quality of exposure to cotton dust. Scientists who assert that a causal relationship exists contend that cigarette smoking and cotton dust exposure are equally important and that neither can be discounted in assessing the cause of chronic lung impairment.

1. *The Byssinosis Studies*

Several studies addressing the problem of byssinosis were discussed at the Subcommittee's hearing. These studies included:

(1) *Epidemiology of Chronic Lung Disease in a Cotton Mill Community* by Dr. Arend Bouhuys, *et. al.*, affiliated with Yale University. Dr. Bouhuys studied cotton textile workers from the late 1960s through the late 1970s and concluded that a connection exists between exposure to cotton dust and byssinosis.

(2) *Byssinosis and Chronic Bronchitis Among Cotton Textile Workers* by Dr. James Merchant, *et. al.*, affiliated with the University of Iowa College of Medicine. Dr. Merchant, *et. al.*, concluded that there is a strong relationship between the prevalence of byssinosis and the concentration of dust, with tobacco smoking as a contributing factor to pulmonary dysfunction.

(3) *A Prospective Study of Chronic Lung Disease in Cotton Textile Workers* by Dr. Gerald Beck, *et. al.*, affiliated with Yale University. Beck, *et. al.*, concluded that cotton textile workers suffer more lung dysfunction than expected regardless of smoking and that the dysfunction is a result of work in cotton textile mills.

(4) Survey results compiled by the American Textile Manufacturers Institute (ATMI) from questionnaires sent to ATMI's member companies. ATMI found that only four percent of those classified as potential byssinotics were diagnosed as having byssinosis with lung impairment.

(5) *Medical Surveillance Data in the Cotton Textile Industry,* a summary of data collected from seven companies by Dr. Harold Imbus (formerly Director of Health and Safety for Burlington Industries) prepared for the American Textile Manufacturers Institute (ATMI). Dr. Imbus concluded that there is little overall dose response for cotton dust and byssinosis in the exposure range between 200 and 500 micrograms.

(6) *Byssinosis: Clinical and Research Issues,* a literature review prepared for the National Academy of Sciences (NAS) by the NAS's Committee on Byssinosis, chaired by Dr. Jerome Kleinerman. The Academy concluded that a relationship exists between acute byssinosis and cotton dust exposure but that the relationship between chronic byssinosis and cotton dust exposure is yet to be determined.

(7) A minority report to the NAS study written by Dr. Kaye Kilburn of the University of Southern California. Dr. Kilburn maintains that the link between acute response to cotton dust exposure and chronic byssinosis has been established.

(8) *Health-based Occupational Exposure Limits for Organic Dust (Cotton, Flax, and Hemp),* a literature review, prepared for the World Health Organization (WHO) by a committee of scientists chaired by Professor James Merchant. WHO concluded that chronic byssinosis is caused by cotton dust exposure.

It was on the basis of these studies that agreements and differences arose at the hearing over (1) the relationship between cotton dust exposure and acute byssinosis, and (2) the relationship between cotton dust exposure and chronic byssinosis.

2. *Testimony*

Dr. Harold Imbus, Mr. James Martin, and Dr. Philip Wakelyn testified that the relationship between cotton dust exposure and acute byssinosis is not clear. While Dr. Imbus, an occupational physician with Health and Hygiene, Inc., agreed that several studies show a relationship between cotton dust and acute byssinosis, he took issue with the concept that one can set a dust level and then predict the response. In his study prepared for the American Textile Manufacturers Institute (ATMI), Dr. Imbus concluded that the overall prevalence of byssinosis and acute changes in lung function are small. Dr. Imbus' report suggested that medical surveillance, together with dust control at a level of 500 micrograms, should be satisfactory to prevent respiratory disease among cotton workers. Dr. Imbus added that the early studies on byssinosis such as the Yale work by Dr. Beck and others, exaggerate the problem since they were done prior to the implementation of controls.

Mr. James Martin, representing the American Manufacturers Textile Institute (ATMI), agreed with Dr. Imbus that the prevalence of byssinosis in the textile industry is far below levels suggested by earlier studies. Mr. Martin testified that the questionnaires completed by ATMI companies show that only 0.4 percent of the exposed population suffer from disabling byssinosis. He added:

> We sincerely believe that a textile worker starting to work today in a textile mill with a medical surveillance program will not contract byssinosis.[15]

Dr. Philip Wakelyn, Manager of Environment and Safety Technology for the National Cotton Council of America, testified that:

> [p]ublished data indicate that only a small minority of exposed personnel ever develop byssinosis of any grade and most of these are smokers...[16]

Mr. Wakelyn noted that the Beck study, which reported that cotton textile workers suffered more pulmonary problems than did a control group, irrespective of smoking, has been criticized for its methodology and control population.[17]

Drs. Merchant, Kleinerman, and Millar, as well as Mr. Scott Hoyman, testified that the relationship between cotton dust exposure and acute byssinosis is clear. Dr. James Merchant, Professor of Medicine at the University of Iowa, told the subcommittee that he participated in a large cross-sectional study of nearly 3,000 textile workers which found a sharply defined dose-response relationship for cotton dust in preparation and yarn areas and an independent dost-response relationship in slashing and weaving areas. These data, along with other dose-response data, were used by the Department of Labor as a basis for the cotton dust standard. Dr. Merchant testified that he also has participated in the design and analyses of five large cross-sectional studies which found adverse health effects associated with cotton dust exposure among ginners, cottonseed oil workers, and those working with waste cotton.[18]

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[15] Hearings before the Subcommittee on Investigations and Oversight, Committee on Science and Technology, U.S. House of Representatives, held September 22, 1982 (hereinafter cited as Hearing Record), at 183.
[16] Id. at 193.
[17] Id.

Dr. Jerome Kleinerman, Chairman of the Department of Pathology at the Mt. Sinai Medical Center, New York, reported that the National Academy of Sciences had no problem defining byssinosis as an acute occupational disorder and confirming its relationship to cotton dust exposure. Dr. Kleinerman testified:

> The acute response to cotton dust is unquestionably influenced by the dose of dust to which an individual is exposed and by the specific work task in the manufacturing process.[19]

Cigarrette smoking, Dr. Kleinerman explained, increases the prevalence of acute symptoms associated with cotton dust exposure, and persons with an allergic nature carry an increased risk of developing byssinosis. He noted that increasing the duration of exposure to cotton dust may increase the prevalance of the disease, but that the acute airway effects are commonly observed in persons who have not been previously exposed.[20]

Dr. Donald Millar, Director of the National Institute for Occupational Safety and Health, testified that exposure to cotton dust can cause acute problems and that for over 300 years the acute symptoms have been recognized in cotton textile workers. Dr. Millar explained that the effects of the disease are related to the level of cotton dust to which the workers are exposed. He added that if the worker is removed from cotton dust exposure in the early stages of the disease, the acute disorder is reversible.[21]

Mr. Scott Hoyman, Executive Vice-President of the Amalgamated Clothing and Textile Workers Union, AFL-CIO, testified that there is an abundance of scientific evidence demonstrating the high risk of lung disease to workers exposed to cotton dust. Studies by the textile industry which conclude that the cotton dust hazard is minimal, he said, obscure the truth.[22] Mr. Hoyman testified that the

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[18] _Id._ at 30-31.
[19] _Id._ at 56.
[20] _Id._
[21] _Id._ at 75.

Georgia Textile Manufacturers Association prevented Dr. Arend Bouhuys, who performed the early studies on byssinosis, from obtaining access to the industry. Mr. Hoyman also reported the Dr. Imbus' findings -- that there was no significant difference in the number of byssinosis cases expected at exposure levels of 200 versus 500 micrograms -- contradicts Dr. Merchant's finding of a doubling of the number from 13 percent at 200 micrograms to 26 percent at 500 micrograms.[23]

On the relationship between cotton dust exposure and chronic byssinosis, Drs. Imbus, Kleinerman, and Wakelyn testified that the scientific evidence is unclear. The number of workers affected by any chronic damage due to cotton dust is a matter of controversy, Dr. Imbus said, because it is difficult to determine the relative proportion of a person's lung disease attributable to cotton dust versus other factors.[24] In his summary of data collected for the American Textile Manufacturer's Institute, Dr. Imbus noted that in addition to weaker acute-dose response relationships, he observed that the population studied had no increase in the percentage of employees with impairments by dust level category. Dr. Imbus said, however, that the percentage of workers with impairments is markedly related to their smoking category.[25] Another indicator of possible chronic effect is the percentage of employees with bronchitis. Again Dr. Imbus said, the relationship appears to be with smoking versus nonsmoking populations and not with the dust level of the work area.[26]

Dr. Jerome Kleinerman told the Subcommittee that while the available scientific evidence on the chronic respiratory ailment in workers exposed to cotton dust seems clear, the evidence that exposure to cotton dust is the specific cause of this disorder is not clear. Chronic bronchitis, he explained, is associated with a variety of nonspecific irritants, including cigarette smoke.[27] Dr. Kleinerman added that there appears to be no relationship between the presence of the chronic disorder and cumulative cotton dust exposure, average cotton dust exposure, or duration of dust exposure. Furthermore, workers exposed to cotton dust chronically do not have an increased death rate as compared to appropriate controls, he said.[28] Dr. Kleinerman also noted that the relationship between the acute symptomatic disorder and a chronic disorder is less clear. Dr. Kleinerman stated that in contrast to the common assumption that the acute syndrome

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[22] Id. at 245-46.
[23] Id. at 246.
[24] Id. at 10,11.
[25] Id. at 11.
[26] Id.
[27] Id. at 57.
[28] Id.

degenerates into a chronic irreversible disorder, the National Academy of Sciences report noted that the relationship requires a special intensive study.[29]

Dr. Wakelyn supported the National Academy of Sciences' conclusions on the presumed relationship between acute and chronic byssinosis and on the relationship between cumulative exposure and the chronic ailment. He testified that:

> ...byssinosis does not evolve into more advanced stages among nonsmokers. Studies indicate that cotton dust exposure does not cause increased mortality which is evidence against the occurrence of any serious long term respiratory impairment due to cotton dust exposure.[30]

Drs. Merchant and Millar, as well as Messrs. Brooks and Hoyman, testified that the relationship between cotton dust exposure and chronic byssinosis is clear. Dr. Merchant told the subcommittee that based on a conservative definition of pulmonary impairment, Dr. Bouhuys and his colleagues suggested that 35,000 men and women in the United States may suffer from disabling lung function due to chronic lung disease as a result of their work in textile mills.[31] In 1979, a follow-up study by Beck, et. al., confirmed Dr. Bouhuy's findings that increased rates of decline in lung function were found in individuals over a six-year period and that there was an increased rate of decline even among those who retired from cotton textile work, suggesting that the process is not reversible. Dr. Merchant added that the follow-up study also found that cigarette smoking and cotton dust exposure were additive and equally important. Dr. Merchant noted that the results of this study have been misinterpreted by the National Academy of Sciences, which rejected it as methodologically flawed.[32]

Dr. Merchant told the subcommittee that he has associated himself with the minority report of the National (NAS) literature review on byssinosis. The minority report, written by Dr. Kaye Kilburn, criticized the NAS review on two counts:

(1) The review defined byssinosis as an acute disease and was unwilling to conclude that byssinosis had a chronic phase.

(2) The Academy did not clearly state whether cotton dust causes chronic lung disease.[33]

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[29] Id.
[30] Id. at 193.
[31] Id. at 32.
[32] Id. at 33.
[33] Id. at 34.

In contrast to the Academy's position on byssinosis, Dr. Merchant said that the World Health Organization's literature review found that chronic respiratory disease does arise from exposure to cotton, flax, and hemp dust. This conclusion, he said, is based upon both mortality and morbidity studies which, in the opinion of the expert committee, adequately document the chronic respiratory response among those exposed to these dusts.[34]

Dr. Millar testified that the National Institute of Occupational Safety and Health (NIOSH) believes that exposure to cotton dust can produce a chronic disease that is irreversible and that may lead to marked disability and premature death. Dr. Millar said that NIOSH is concerned that the Academy study casts doubt on the association between exposure to cotton dust and the chronic lung diseases. "We in public health," he explained, "cannot afford to withhold preventive action until every uncertainty has been resolved."[35]

Mr. John C. Brooks, Commissioner of the North Carolina Department of Labor, agreed with this last statement. He stated that:

> ...we [the State of North Carolina] do not think it is defensible in fact to doubt or deny that chronic byssinosis is linked to cotton dust exposure. We think the evidence is overwhelming...[36]

3. General Conclusion

While recognizing the degree of disagreement about chronic byssinosis apparent in the foregoing review, the Subcommittee believes that a cautious, protective approach to the health of cotton textile workers is desirable and necessary. Differences of scientific opinion do exist concerning the relationship between cotton dust exposure and chronic byssinosis, and research on this issue certainly must continue. The best scientific evidence available at present, however, suggests strongly that there is a correlation between cotton dust exposure and chronic byssinosis. The most appropriate regulatory approach thus is one that recognizes the strength of this evidence and proceeds from a perspective of caution. OSHA's regulatory policy toward cotton dust should reflect that perspective.

B. Dust Control Technology

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[34] Id. at 34-35.
[35] Id. at 77.
[36] Id. at 121.

Issue: Is the technology to control cotton dust available?

Finding: The testimony presented to the Subcommittee indicated that the technology to control most cotton dust exposures is currently available. The testimony also revealed, moreover, that the textile industry is already substantially in compliance with the cotton dust standard. While some technology development is necessary to realize total compliance, the testimony indicated that there do not appear to be any major technological obstacles to the achievement of full compliance with the permissible exposure levels mandated by the standard.

Recommendation: The Subcommittee recommends that OSHA factor into its decisionmaking on the cotton dust standard a study prepared by the Congressional Office of Technology Assessment (OTA) on the effect of the standard on the textile industry. The OTA study demonstrates that the dust control technology to ensure compliance with the 200 ugs/m^3 PEL is generally available and that the technology to eliminate the few areas of noncompliance will soon be developed. Moreover, the study reveals that the textile industry is already substantially in compliance with the cotton dust standard and that productivity in the industry has increased substantially since the standard's implementation.

DISCUSSION: Testimony presented at the Subcommittee's hearing emphasized three general conclusions:

(1) The textile industry is already substantially in compliance with the 200 ugs/m^3 permissible exposure level more than a year before the March 1984 final compliance date;

(2) Full compliance by the textile industry with the PEL is technologically feasible; and

(3) Productivity in the textile industry has increased dramatically as the industry has installed new lower dust producing equipment since promulgation of the OSHA cotton dust standard.

1. Industry Compliance

The deadline for full compliance with the OSHA cotton dust standard is March 1984. All of the witnesses who tetified at the Subcommittee's hearing, however, including those representing the industry, agreed that the textile industry is already substantially in compliance with the 200 ugs/m^3 permissible exposure level mandated by the standard. Mr. John Lumsden, whose company advises a number of smaller textile manufacturers testified that 80-85% of all textile yarn manufacturing work areas -- the process subject to the

200 microgram exposure standard -- are now in compliance with the OSHA standard.[37] Mr. Lumsden also testified that many plants operated by his cients have achieved 100% compliance on all shifts.[38]

Mr. John Brooks, Commissioner of Labor for the State of North Carolina, echoed Mr. Lumsden's assessment. Mr. Brooks estimated that "well over 50 percent of North Carolina's cotton textile plants have a majority of their operations in compliance with the permissible exposure limits."[39] Mr. Brooks also expected the textile industry in North Carolina to be in total compliance by the 1984 deadline.[40]

Dr. Ruth Ruttenberg, a private consultant who studied the effect of the OSHA standard on the textile industry for the Congressional Office of Technology Assessment, testified that during the last several years, a technological "revolution" has occurred in the industry. Based on her study and interviews with industry spokesmen, Dr. Ruttenberg estimated that approximately 75% of all companies are nearly in full compliance.[41]

While compliance with the OSHA cotton dust standard thus is high for the textile industry overall, the achievements of the larger textile manufacturers are particularly impressive. For example, Dr. Ruttenberg testified that in mid-1982, officials at the J. P. Stevens Company estimated that they were 87% in compliance. OSHA's cotton dust team was told by representatives of the major textile manufacturers that their companies had achieved 85-90% compliance.[42]

2. Full Compliance Feasibility

Given the tremendous progress made by the textile industry to date in complying with the OSHA standard, most witnesses stated that 100% compliance could be achieved by the industry by the March 1984 deadline. As noted above, Mr. Lumsden and Mr. Brooks both concluded, based on their experiences with the textile industry, that the compliance deadline could -- and would -- be met. Dr. Ruttenberg supported that assessment by pointing out that compliance with the OSHA PEL standard has come hand-in-hand with modernization in the textile industry, and vice-versa.

OSHA's cotton dust team drew similar conclusions after visiting five textile mills in North Carolina and South

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[37] *Id.* at 109.
[38] *Id.*
[39] *Id.* at 122.
[40] *Id.*
[41] *Id.* at 131.
[42] *See* Appendix 2 to this report, at 5.

Carolina during June 1981. In summarizing the findings of their visits, the team stated, "All the plants we visited will have no significant problems in achieving total compliance by 1984 if they follow their normal modernization plan."[43]

Disagreement with this view came from Mr. Percy Thackston, representing the American Textile Machinery Association (ATMA), and Mr. James Martin, representing the American Textile Manufacturers Institute (ATMI). Both witnesses argued that while the technology exists for compliance in most production areas, there are several areas for which sufficient dust control technology does not exist. Mr. Thackston argued that in the spinning through warping stages of the manufacturing process, no real technological advances have occurred.[44] Mr. Thackston and Mr. Martin both stated, however, that the chief obstacle to the achievement of full compliance in the spinning through warping stages is financial rather than technological per se. Mr. Thackston testified that because substantial compliance has already been achieved by the industry as a whole, the small size of the remaining market provides little incentive, absent the cotton dust standard, to develop the additional technology to achieve 100% compliance. As Mr. Thackston stated, "Since it appears that a majority of the mills are already in compliance, I do not foresee anyone spending the large amounts of dollars required in research and development to effect a breakthrough in technology to satisfy the remaining market."[45]

Although the Subcommittee acknowledges the concern of Mr. Thackston and Mr. Martin, the Subcommittee concludes, based on the information presented to it, that 100% compliance by the textile industry is technologically attainable. As noted, Mr. Lumsden, Mr. Brooks, and Dr. Ruttenberg all concluded from their own experiences and from discussions with industry representatives, that the industry would meet the March 1984 deadline for compliance. OSHA's cotton dust team came to the same conclusion after meeting with industry officials and inspecting several mills.[46] Moreover, a report prepared for OSHA by Centaur Associates, Inc., of Washington, D. C., analyzing the technological and economic aspects of cotton dust regulation, offered a similar opinion. A draft of the report ,obtained by the Subcommittee through a formal request to OSHA, declared that compliance with the PEL was both economically and technologically feasible.

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[43] _See_ Appendix 3 to this report, at 11.
[44] _Hearing Record_, _supra_ note 15, at 149.
[45] _Id._
[46] See materials cited in notes 42-43 _supra._

The Subcommittee also notes that ATMI has estimated that many companies are already substantially in compliance in the spinning through warping stages. In Exhibit B to ATMI's April 23, 1982 Comments to the OSHA cotton dust docket, compliance figures collected by ATMI reveal that compliance with the 200 microgram standard ranges from 65.9% in the winding stage to 78.3% in the spinning stage. The compliance percentages at a 300 microgram level are even more impressive, ranging from 83.9% in the warping stage to 90.7% in the spinning stage.[47] Mr. Brooks presented comparable figures for compliance among companies in North Carolina.[48] In light of these figures, the Subcommittee believes that full compliance in these ostensibly difficult stages of the production process can be achieved without extraordinary effort or expense.

Finally, the Subcommittee observes that the textile industry has already invested considerable resources in moving toward full compliance with the cotton dust standard. ATMI stated in its April 23 Comments to the OSHA docket that a survey by it of industry compliance costs revealed that approximately two-thirds of the total capital expenditures necessary to achieve full compliance have already been made by the industry.[49] Although ATMI sought to downplay these figures, the Subcommittee has seen no evidence to cast doubt upon their accuracy. Moreover, testimony at the Subcommittee's hearing indicated that total compliance costs for the industry are far less than even what the Department of Labor had originally anticipated, even before any offset is made for productivity gains due to new equipment.[50] Consequently, the Subcommittee concludes that full compliance can be achieved by the 1984 deadline.

3. Productivity Increases

All witnesses who testified at the Subcommittee's hearing agreed that productivity in the textile industry has increased dramatically over the last several years and that this increase in productivity has coincided generally with the institution of the OSHA cotton dust standard. The only real point of disagreement among the witnesses was the extent to which modernization in the textile industry, which is responsible for the productivity gains, is in fact due to the permissible exposure levels required by the standard.

Relating the findings of her study for OTA, Dr. Ruttenberg summarized the developments in the textile industry thusly:

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[47] *See* Appendix 4 to this report.
[48] *Hearing Record*, *supra* note 15, at 127.
[49] *See* Appendix 4 to this report, at 6-7.
[50] *Hearing Record*, *supra* note 15, at 175. *See* 43 Fed. Reg. at 27369.

> In 1981 the U.S. purchase of textile machinery was $1.6 billion. Modernization accounted for over 70 percent of those expenditures, which means that we have a very heavy amount of new capital investment going on in the textile industry. Shuttleless looms, chute-fed cards, open end spinning, and other techniques currently a major part of the modernization were well known if not widely used in the 1970's. Why did OSHA analyses nearly ignore them? Not only do these techniques bring compliance, but other benefits as well. Increasingly, yarn and cloth quality are increased; speed and efficiency of production are increased; our ability to meet foreign competition is increased; and decreasing is downtime, daily maintenance by manual labor by workers who would be exposed to cotton dust; as well as quantity of product seconds; labor turnover and absenteeism.
>
> To ignore the role of technological change in any analysis of the textile industry I believe would be faulty. The textile industry, largely due to its new capital investments, is leading U. S. manufacturing in productivity growth. It was astounding to me to realize that during the period 1948 to 1979, textile manufacturing had the highest productivity growth rate of the 19 major manufacturing categories in SEC categories 20 to 38, which represent the manufacturing sector. At an average increase of 4.87 percent a year, it led chemicals, petroleum refining, electronic equipment, and all those manufacturing sectors which we tend to think of as the leaders in productivity growth. Its 4 percent annual increase during the recession of 1981 is high above the national average of just over 2 percent. Some mills, Burlington and Cone Mills among them, have been boasting 6 percent annual average productivity increases for their entire mill structure, not just for individual plants.
>
> So what we have is, whether caused by the cotton dust regulation or in some way the cotton dust regulation being involved or independently, very high productivity growth relative to the rest of the U. S. economy going on in textiles.[51]

In the opinion of the Subcommittee, there can be no doubt that the OSHA cotton dust standard has been to some extent a "technology forcing" regulation that has motivated the industry to adopt new production practices. These new practices, including the installation of new less dust-producing equipment, have resulted in increased productivity throughout most of the textile industry. Certainly, as noted previously, lower dust levels have in part resulted from modernization efforts that some companies would have pursued even in the absence of the cotton dust standard. For many other companies, however, the institution of the OSHA standard spurred retooling and replacement activities that in all probability would otherwise not have occurred.[52]

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[51] Hearing Record, supra note 15, at 132.

The significance of the standard's impact on productivity is twofold. First, from a short-term perspective, the enhanced productivity brought about by retooling has assuredly resulted in monetary benefits to the textile industry that offset to some degree the capital outlays. The costs of compliance with the standard -- both past and future -- are thus reducible and are less than the aggregate figures cited by the industry. Second, from a long-term view, the modernization that has occurred, at least in part because of the cotton dust standard, will provide benefits to the textile industry for years to come in the form of increased profits and improved competitive ability. These benefits over the long term will undoubtedly surpass the expenditures made to acquire them. The OSHA cotton dust standard thus has clearly been beneficial to the industry so far as productivity is concerned.

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[52] _Id._ at 135-136 (comments of Dr. Ruttenberg).

C. Scientific Staff

Issue: How has OSHA utilized its scientific staff and that of NIOSH in evaluating health effects data on byssinosis?

Finding: The testimony and materials presented to the Subcommittee indicated that the present Occupational Safety and Health Administration has not paid sufficient attention to recommendations from the National Institute for Occupational Safety and Health (NIOSH) and its own science staff in evaluating the health effects data on byssinosis. Despite reviews by NIOSH and the OSHA staff discrediting the new health data and urging that it be disregarded by OSHA, OSHA policymakers reopened the cotton dust record and proceeded with their review of the PEL based on this data.

Recommendation: The Subcommittee recommends that OSHA policymakers give great weight to the views of OSHA and NIOSH scientists in making decisions that involve the evaluation of scientific data.

Discussion: From the hearing record OSHA does not appear to have paid heed to the views of its science staff and NIOSH in reconsidering the cotton dust standard for the primary cotton textile industry. In fact, it is not clear on the record whether OSHA had any reasonable scientific basis upon which to commence a formal review of the standard.

As Section III(D) of this report details, at the time of OSHA's decision to issue the ANPR on the standard in February 1982, the only available scientific evidence was a survey prepared by ATMI, which at that time was criticized severely by OSHA scientists. The survey was also heavily criticized by NIOSH. Moreover, as Section III(D) further relates, NIOSH and the OSHA scientific staff are extremely critical of all the health effects data upon which OSHA is basing its review of the standard. Coupled with the criticisms of this data leveled by other witnesses at the Subcommittee's hearing, the views of NIOSH and the OSHA science staff state an overwhelming case that OSHA should disregard the "new data" and leave the permissible exposure levels intact.

While OSHA's action on the 200 ugs/m^3 PEL is not yet certain, the Subcommittee notes that prior to the present review of the standard, OSHA had taken a critical view toward industry data, a view that was supported by both the weight of scientific evidence and the courts. At the Subcommittee's hearing, Mr. Scott Hoyman of the Amalgamated Clothing and Textile Workers Union related that the U. S. Court of Appeals had noted that data submitted previously by ATMI during OSHA's initial development of the cotton dust standard had been criticized by OSHA on several grounds:

(1) None of the studies had been subjected to peer

review through publication in scientific journals.

(2) None of the studies provided dose response data.

(3) The populations studied may not be representative of the entire affected population.

(4) The validity of the studies could not be verified because the textile industry did not furnish the underlying data and failed to provide the authors of the studies for cross-examination at hearings.[53]

According to Mr. Hoyman, ATMI had challenged OSHA's assessment of its data in the Court, but its challenge was rejected.[54] Many of the same criticisms apply to the current ATMI data, and both NIOSH and members of the OSHA science staff have recommended that it be disregarded by OSHA. NOISH and the OSHA staff were also critical of the NAS report on byssinosis.

In contrast to the previous experience with the cotton dust standard, it is clear that the current OSHA administrators have already disregarded the recommendations of their science staff in deciding to initiate review of the 200 ugs/m^3 permissible exposure level. As Section III(D) of this report details, the OSHA cotton dust project team recommended explicitly that the exposure level not be part of any review of the standard.[55] This recommendation was accepted by OSHA's Deputy Assistant Secretary, Mark Cowan, but he was apparently overruled.[56]

Additionally, the Subcommittee notes that in early 1981, the present OSHA administrators recalled a pamphlet on byssinosis that NIOSH believed was valuable in encouraging preventive health steps in the textile industry. At the hearing, Mr. Gore asked Dr. Millar if he thought that the pamphlet was accurate. Dr. Millar replied that he believed the pamphlet accurately described for workers the purpose of the OSHA standard and the preventive approaches that were recommended to prevent disease in the industry.[57] The Subcommittee is concerned that OSHA has removed material that NIOSH believes was useful in educating workers.

At the Subcommittee's hearing, Dr. Millar also outlined four preventive tactics recommended by NIOSH to eliminate byssinosis in the industry. All four support the present OSHA standard:

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[53] Id. at 246.
[54] Id.
[55] See Appendix 5 to this report (Memorandum dated October 7, 1981, from Cotton Dust Project Team to Mark D. Cowan, at 27).
[56] See Appendix 5 to this report (Memorandum from David M. Smith to Cotton Dust Project Team, at 1).
[57] Hearing Record, supra note 15 at 105.

(1) Reduce the exposure of workers to cotton dust via engineering controls.

(2) Until cotton dust exposures are universally brought to recommended levels, respirators should be provided for workers as an auxilliary method of protection.

(3) Periodically monitor the health status of cotton workers.

(4) Encourage workers not to smoke.[58]

The Subcommittee encourages OSHA to pay heed to Dr. Millar's perspective on preventive health steps and on the present standard.

The Subcommittee's position on the use of scientific data by OSHA was summarized by Chairman Gore at the Subcommittee's hearing:

> It is critically important that the increasing number of debates about scientific studies, where the protection of health and safety in the workplace is concerned, be conducted according to established scientific standards.[59]

It does not appear, based on the hearing record, that OSHA has been guided by such standards in this case.

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[58] _Id._ at 76.
[59] _Id._ at 106.

D. The New Health Data

Issue: Was the new health effects data on byssinosis of sufficient validity or import to justify the use of limited scientific resources to reopen the record on the permissible exposure levels of the cotton dust standard?

Finding: The testimony and materials presented to the Subcommittee indicated that the quality of the "new" health effects data -- surveys and a study by the American Textile Manufacturers Institute (ATMI) and a National Academy of Sciences (NAS) report -- cited by OSHA does not support a relaxation of the PEL. Moreover, the testimony and materials support the conclusion that the quality of the new data does not justify OSHA's initial decision to utilize its limited scientific resources to reopen the record on the PEL. The new health data relied upon by OSHA has been discredited and criticized by academic scientists, NIOSH, and members of OSHA's own science staff. OSHA suffers from scarce resources, and numerous occupational safety and health problems exist for which no standard has yet even been proposed. A threshold of valid contrary scientific data should be required before limited resources are expended to review existing health and safety standards. No such threshold of evidence is present in this case. OSHA provided no valid scientific justification, either at the hearing or in response to the Subcommittee's written questions, for its decision to reconsider the standard's PEL and demonstrated no valid scientific basis to revise it.

Recommendation: The Subcommittee recommends that OSHA discontinue its review of the 200 ugs/m^3 and certainly not relax the permissible exposure limit. The Subcommittee also recommends that the raw worker health data upon which the ATMI byssinosis study was based be made available to responsible outside parties for review and evaluation. A major criticism of the ATMI study is that the raw data was compiled and evaluated only by the textile companies themselves and has not been subjected to independent scientific review.

Discussion: Based on information presented to the Subcommittee at and in connection with its hearing, the Subcommittee concludes that OSHA's present review of the permissible exposure levels of the cotton dust standard is not justified by the new health data. The Subcommittee also concludes that a relaxation of the dust level standard would be unwarranted.

In its Advanced Notice of Proposed Rulemaking (ANPR), issued on February 12, 1982,[60] OSHA declared its intention to reconsider the existing cotton dust exposure levels in the textile industry in light of "new health data" that had come to its attention. In the ANPR, OSHA did not elaborate on the nature of this new health data. At the Subcommittee's hearing, however, it was clear that the data upon which OSHA has relied consists of:

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[60] 47 Fed. Reg. 5906 (1982). See Appendix 6 to this report.

(1) A health data survey by the American Textile Manufacturers Institute (ATMI);

(2) A report on byssinosis released in February 1982 by the National Research Council of the National Academy of Sciences; and

(3) A study prepared by Dr. Harold R. Imbus for the ATMI that was not completed until April 1982.

In the opinion of the Subcommittee, none of this new data supports OSHA's review of the exposure levels. Testimony presented at the hearing indicated that the studies cited by OSHA either were flawed methodologically or drew unsupportable conclusions. Moreover, internal OSHA memoranda obtained by the Subcommittee from OSHA reveal that the agency itself had come to similar conclusions about the data.

1. The ATMI Survey

On January 3, 1982, the ATMI submitted to OSHA the results of a survey that it had conducted to ascertain the prevalence of byssinosis among cotton textile workers. The ATMI had sent a questionnaire to its member companies seeking certain health-related data. One hundred forty-two companies responded to the survey, ostensibly providing information on 151,188 workers exposed to cotton dust. The ATMI reported that its survey revealed that 3,669 workers had substantially abnormal pulmonary function. Of these 3,669 workers, only 670 were "diagnosed as having byssinosis with lung impairment." Based on these figures, ATMI contended in its submission to OSHA that only 0.4% of all textile employees have byssinosis.[61]

It is clear from the record available to the Subcommittee that the ATMI survey provides no reasonable scientific basis for OSHA's review of the 200 ugs/m^3 PEL. At the Subcommittee's hearing, Dr. James A. Merchant criticized the techniques and definitions employed in the survey and stated that "the figures put forward by the ATMI are likely to be a gross underrepresentation of those with respiratory disease associated with cotton dust exposure."[62] In Comments submitted to the OSHA docket on March 26, 1982, in response to the ANPR, NIOSH similarly criticized the survey. NIOSH declared:

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[61] See Appendix 7 to this report (relevant portion of ATMI's March 26, 1982, Comments to the OSHA cotton dust docket).
[62] Hearing Record, supra note 15, at 31.

> Since their estimation of the rate of disease is so crude, the ATMI study may have masked certain groups among which a greater prevalence may exist. This crude prevalence is therefore meaningless and cannot be compared to earlier, scientifically valid studies.[63]

OSHA's own scientific staff was equally critical of the survey and ATMI's conclusions. At the request of Dr. John Martonik, Deputy Director of OSHA's Health Standards Programs, an analysis of the survey was conducted by Elisa Braver, an epidemiologist in OSHA's Health Standards Office. In a memorandum to Mr. Martonik dated February 4, 1982, Ms. Braver concluded that "this study does not contribute to our understanding of cotton-induced disease."[64]

In light of these severe criticisms, the Subcommittee concludes that the ATMI survey does not provide a reasonable scientific basis to commence a formal review of the exposure level standard as OSHA has done, or to revise the standard.

2. The National Academy of Sciences Report

On February 16, 1982, the National Research Council of the National Academy of Sciences issued a report entitled "Byssinosis: Clinical and Research Issues." Because the report was issued four days after OSHA's ANPR, it could not have been part of the health data underlying the ANPR. Nevertheless, the report is instrumental in OSHA's review.

Chaired by Dr. Jerome Kleinerman, the NAS Committee on Byssinosis, which prepared the report, did not conduct actual field research in examining issues related to the relevance, severity, and causation of byssinosis among textile workers. Instead, the committee performed essentially a survey of the existing literature on byssinosis. In its report, a majority of the committee concluded: (1) a clear connection exists between exposure to cotton dust and acute byssinosis; and (2) the relationship between exposure to cotton dust and chronic byssinosis is unclear. A minority report challenging the majority's conclusion about chronic byssinosis was filed by Dr. Kaye H. Kilburn of the University of Southern California.

The NAS report has been criticized on several grounds, including not only its conclusions but also the manner in which the committee members themselves were selected.[65]

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[63] *See* Appendix 8 to this report, at 4.

[64] *See* Appendix 9 to this report.

[65] *Hearing Record*, *supra* note 15, at 94-99.

Extremely harsh criticism of the report's statement regarding chronic byssinosis has come from Dr. J. Donald Millar, Director of NIOSH. In a letter to Dr. Frank Press, Chairman of the National Research Council, dated August 15, 1982, Dr. Millar stated:

> [The report] is both depressing and distressing. It is depressing in its narrowness of viewpoint, in the superficiality of its review of the literature, and in the glibness of its tone. It is most distressing from the point of view of public health and preventive disease. By its facile denial of the existence of chronic pulmonary disease in workers exposed to cotton dust, the report ignores 300 years of clinical and epidemiologic observation and may, as a result, seriously undercut a national effort to eradicate byssinosis from the American workforce.[66]

At the Subcommittee's hearing, Dr. Merchant expressed similar concerns about the report's conclusions and its impact. Dr. Merchant agreed with the minority report written by Dr. Kilburn and declared that the majority's conclusion that byssinosis did not have a chronic state "flies in the face of the medical literature."[67] Dr. Merchant also stated that he saw "no evidence" to support the report's position that no clear relationship exists between cotton dust and chronic lung disease.[68]

Dr. Kleinerman defended the committee's report as indicative, in his view, of the major differences of opinion that exist about the causative elements of chronic lung disease among cotton textile workers. Dr. Kleinerman pointed out that the report was simply a survey of the existing literature on byssinosis and that the committee had recommended several longitudinal studies of textile workers to collect accurate field data.[69] Although he disagreed with the criticisms of the NAS report, Dr. Kleinerman expressed his belief that the report did not support relaxation of the current OSHA standard. Instead, in response to a question from Chairman Gore, Dr. Kleinerman stated, "I think we certainly should not relax our standards. We should maintain as much prevention as is possible."[70]

OSHA itself recognized that the NAS report did not provide new medical data or warrant revision of the 200 ugs/m^3 PEL. In a memorandum to Mr. Thorne Auchter, the Administrator of OSHA, Dr. John Martonik analyzed the NAS report. Dr. Martonik's conclusion was essentially that the report told OSHA nothing that it did not already know. Dr. Martonik stated:

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[66] _Id._ at 104.
[67] _Id._ at 34.
[68] _Id._
[69] _Id._ at 94.
[70] _Id._

> Although the Committee report references studies completed since the publication of the Cotton Dust Standard, it does not present any new evidence not previously available from other sources. It presents the conclusions of the Committee on Byssinosis based on their analysis of the available data. In 1978, OSHA decided that there was sufficient scientific evidence to conclude that exposure to cotton dust can cause chronic irreversible lung disease. The Committee reviewed the same evidence available to OSHA and reached a different conclusion. OSHA may decide that its original conclusions were correct, or it may decide that its original conclusions should be reevaluated.[71]

In light of the criticisms made of the NAS report by Drs. Millar and Merchant and others, Dr. Kleinerman's view on the OSHA standard, and OSHA's own internal assessment that the NAS Committee simply reviewed information already reviewed by OSHA, the Subcommittee concludes that the NAS report does not justify either the present review or revision of the 200 ugs/m^3 standard.

3. The Imbus Study

In April 1982, the ATMI submitted to the OSHA cotton dust docket a study of byssinosis among textile workers prepared by Dr. Harold R. Imbus, of Health and Hygiene, Inc., in Greensboro, North Carolina, and formerly Director of Health and Safety for Burlington Industries. Dr. Imbus had prepared the study at the request of ATMI and with worker health data supplied to him by ATMI. ATMI had collected the data from eight of its member companies that had sophisticated methods for compiling medical surveillance data. The data provided by the companies to ATMI was the employee dust exposure and medical information required by OSHA. One company's data was not utilized by Dr. Imbus because the employee health data could not be correlated with dust exposure levels. The data reviewed by Dr. Imbus thus came from seven companies and represented the record of 41,173 cotton textile workers.[72]

Dr. Imbus' study technically could not have been part of the new health data that ostensibly prompted OSHA to reconsider the cotton dust standard. ATMI compiled its data only after OSHA had requested that ATMI provide it with health information on textile workers in February 1982.[73]

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[71] _See_ Appendix 10 to this report.
[72] _Hearing Record, supra_ note 15, at 15.

ATMI then supplied the data to Dr. Imbus. While ATMI informed OSHA of Dr. Imbus' preliminary findings in March 1982, Dr. Imbus' analysis and report was not completed and submitted to the OSHA docket until April 23, 1982.[74] Dr. Imbus' study thus could not have provided a foundation for OSHA's ANPR on the exposure level standard.

Despite the timing of Dr. Imbus' report, the study is important because it clearly is the basis upon which ATMI presently argues for revision of the 200 ugs/m^3 PEL. Moreover, OSHA has unquestionably relied upon Dr. Imbus' study in pursuing its review.[75]

The thrust of Dr. Imbus' findings is that cotton textile workers can be exposed to a 500 micrograms/cubic meter of air concentration of cotton dust without an increase in the prevalence of byssinosis found at an exposure level of 200 micrograms, the current OSHA standard. ATMI has advocated the 500 microgram level for several years.[76]

Dr. Imbus' study was criticized heavily at the Subcommittee's hearing by Drs. Merchant and Millar. Dr. Merchant's criticism was threefold. First, Dr. Merchant pointed out that Dr. Imbus' data was highly unrepresentative of the textile industry as a whole. The seven companies whose data was utilized for the study are companies that have well-established medical surveillance and health programs. Dr. Merchant stated that it is unlikely that other companies have such sophisticated programs. As a result, in Dr. Merchant's opinion, employees at these seven companies probably exhibit a lower prevalence of byssinosis than those in the industry overall.[77] Second, Dr. Merchant observed that medical surveillance programs, pre-employment health examinations, and selective hiring practices have undoubtedly produced a more fit workforce at these companies, as well as others. It is, therefore, difficult to determine, based on Dr. Imbus' study, whether individuals actually have the same rate of health disorders at a 500 microgram dust level that they have at the 200 microgram level mandated by OSHA.

Finally, Dr. Merchant was critical of Dr. Imbus' study for its failure to provide any useful details about the methodology employed in constructing the tabular material relied upon by Dr. Imbus. Dr. Merchant argued that in order to assess the validity of Dr. Imbus' conclusions, one must be able to examine the data upon which those conclusions are

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[73] *Id.* at 85, 86-87.
[74] *Id.* at 87.
[75] *See* prepared statement of Mr. Thorne G. Auchter, Appendix F to hearing record, at 12.
[76] *See ATMI v. Donovan* 452 U.S. _____, at 502 .
[77] *Hearing Record, supra* note 15, at 31-32.

based.[78] Because Dr. Imbus relied only upon information collected and synthesized by ATMI, which in turn had been collected and synthesized for ATMI by the textile companies, the basic data upon which Dr. Imbus' report is based has not been reviewed -- and is presently not reviewable -- by other individuals involved in byssinosis research. Consequently, Dr. Merchant felt that major questions exist about Dr. Imbus' study and that to resolve these questions, the raw data collected by the textile companies should be made available for review by independent parties not associated with the textile industry.[79]

Dr. Millar echoed Dr. Merchant's concern that the worker population surveyed for Dr. Imbus' study was unrepresentative of the industry as a whole and asserted that because the methodology of Dr. Imbus' study is so unclear, it was inappropriate for consideration by OSHA.[80] Indeed, in comments submitted to the OSHA cotton dust docket, NIOSH criticized Dr. Imbus' report in detail. Comparing Dr. Imbus' report to the ATMI health survey, NIOSH asserted that the report "sheds no more light upon the health effects of exposure to cotton dust in the textile industry than did the first submission, and should be disregarded by OSHA in its rulemaking effort."[81]

OSHA's own science staff expressed similar reservations about Dr. Imbus' study. In a critique dated June 30, 1982, which she submitted to the OSHA docket, Ms. Elisa Braver of the Health Standards Office, who had also reviewed the ATMI survey at Dr. Martonik's request, related her concern that the report was lacking. Criticizing the underlying methodology of the study, Ms. Braver stated:

> I do not think that Imbus' report can support the breadth of the conclusions reached by him and ATMI. Although the findings were encouraging with regard to the low prevalences of respiratory symptoms and lung function declines, the limitations of the study design were such that no inferences can be drawn with any certainty... The major question is whether medical surveillance programs that were not set up for the purpose of determining the etiology and pathogenesis of disease related to cotton dust exposure can provide valid data regarding these two issues. OSHA should seek the opinions of a variety of expert scientists regarding this question of other scientific questions bearing on revision of the cotton dust standard.[82]

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[78] Id. at 32.
[79] Id.
[80] Id. at 77, 93.
[81] See Appendix 11 to this report, at 3.
[82] See Appendix 12 to this report, at 3-4.

In defending his report, Dr. Imbus conceded at the Subcommittee's hearing that the data utilized may not be representative of the cotton textile industry. Responding to the criticisms leveled by Drs. Merchant and Millar, Dr. Imbus stated:

> I did not say that this study represents the textile industry as a whole. We never contended such. We simply presented this in the context... that if you will do a combination of things as were done by the companies in this report, you will achieve a very low level of pulmonary disease and problems of employees being affected by cotton dust.[83]

Based on the testimony of Drs. Merchant and Millar at the hearing and the review of Dr. Imbus' study by Ms. Braver of OSHA, the Subcommittee concludes that Dr. Imbus' study does not support a revision of the current 200 ugs/m^3 permissible exposure level standard in certain operations in the textile industry. A number of major questions are outstanding about the representativeness and quality of the basic health data relied upon by Dr. Imbus. The Subcommittee believes that these questions must be answered before Dr. Imbus' study can be considered a valid analysis of byssinosis among cotton textile workers.

The Subcommittee noted considerable concern at its hearing that the raw data synthesized by the companies for ATMI be reviewed by an independent party. Dr. Imbus admitted in his testimony that even he had not reviewed this data in preparing his report but had instead relied upon information provided him by ATMI.[84] The Subcommittee believes that the raw data should be made available by the companies for review by responsible outside parties. At the hearing, the ATMI representative agreed to make the data available to the Subcommittee. Since the hearing, however, ATMI has been able to provide the Subcommittee only with ATMI's synthesis of the summaries provided by the companies. The Subcommittee must consequently take the position that until such time as the raw data is made available and reviewed by an independent party, Dr. Imbus' study should not be given weight by OSHA in its review.

As a final point, the Subcommittee notes that one criticism levelled regarding the methodology of Dr. Imbus' study is that no quality control existed on the gathering of the worker health data, including spirometry data, upon which the study is based. The validity of this criticism was demonstrated in December 1982, several months after the

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[83] Hearing Record, supra note 15, at 103.
[84] Id. at 54-55.

Subcommittee's hearing, when West Point Pepperell, one of the companies from whom ATMI collected data for Dr. Imbus' study, was cited by OSHA for having employees untrained in spirometry administer pulmonary function tests to the company's workers. A copy of the OSHA citation is attached as Appendix 13 to this report. The Subcommmittee believes that this event casts further doubt on the accuracy of Dr. Imbus' findings and conclusions.

4. General Conclusions

As the foregoing discussion reveals, the Subcommittee must conclude that no new health data exists to support OSHA's current review of the exposure level standard. The ATMI survey, which is in fact the only "new" data in OSHA's possession at the time of the February 1982 ANPR, is not considered by OSHA or others, except possibly ATMI, to provide useful information on the health effects of exposure to cotton dust. The NAS report is a survey of the literature on byssinosis that had previously been reviewed by OSHA in issuing the cotton dust standard. Moreover, Dr. Kleinerman, the Chairman of the NAS panel, stated at the Subcommittee's hearing that the OSHA standard should not be revised and that the committee's report did not support any such revision. Finally, numerous serious questions have been raised about Dr. Imbus' study, even by members of the OSHA science staff, that make the study inappropriate for consideration by OSHA. The Subcommittee notes, of course, that Dr. Imbus' study was not completed until April 1982, two months after the ANPR.

The Subcommittee is thus hard-pressed to discern the scientific basis for OSHA's current review of the cotton dust standard as it applies to the primary cotton textile industry. The Subcommittee had hoped to hear testimony from Mr. Thorne Auchter, the Administrator of OSHA, but Mr. Auchter was unable to attend the Subcommittee's hearing due to a last minute illness. Neither Mr. Auchter's written testimony nor OSHA's subsequent responses to the Subcommittee's written questions, however, provide for the record any scientific evidence to support OSHA's decisions beyond that discussed herein.

Documents obtained from OSHA by the Subcommittee through a formal request confirm the Subcommittee's conclusion that OSHA's review of the exposure level is not supported by any reliable scientific data. The internal OSHA reviews of the ATMI survey, the NAS report, and Dr. Imbus' study cited above validate that conclusion. Additionally, internal memoranda addressing the specifics of the February ANPR reveal that neither OSHA's cotton dust project team nor Mr. Mark D. Cowan, the Deputy Assistant Secretary for OSHA, believed that a review of the permissible exposure level was justified. In an October 1981 memorandum, Mr. David M. Smith, head of the cotton dust team, related to the team that Mr. Cowan had agreed with their recommendation that the exposure level not be reconsidered by OSHA. The full text of the memorandum, along with related memoranda, are included as Appendix 5 to this report.

Additionally, the Subcommittee notes that as late as January 13, 1982, it was OSHA's public position not to review the 200 microgram exposure level. In the Calendar of Federal Regulations published on January 13, 1982, OSHA stated its general intention to reconsider aspects of the cotton dust standard. In relating that intent, however, OSHA declared, "The Agency is not considering changes to the current permissible exposure limits."[85] The Subcommittee has seen no evidence that OSHA receive any scientific information at all between January 13 and February 9, 1982, pertaining to byssinosis among textile workers, not to mention any that would support the current review of the permissible exposure level. The Subcommittee must, therefore, conclude that OSHA cannot support its present reconsideration on scientific grounds.

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[85] 47 Fed. Reg. 1797 (1982). See Appendix 14 to this report.

Appendix #1

U.S. Department of Labor
Assistant Secretary for
Occupational Safety and Health
Washington, D.C. 20210

MAY 7 1981

MEMORANDUM FOR: ALL REGULATORY REVIEW PARTICIPANTS

FROM: MARK D. COWAN
SPECIAL ASSISTANT FOR REGULATORY AFFAIRS
AND DIRECTOR OF POLICY

SUBJECT: Project Teams and Review Process

Attached is an updated directory of the project teams' membership. The addition of field representatives should be noted, as we look forward to their valuable input.

The review process is now underway and each of you should be actively pursuing our mutual goals. While need for expediency in this matter is critical, I want to stress that our overriding concern is the production of a high quality result. I have received your issue papers and proposed time schedules. After I meet with the other members of the review panel, I am looking forward to discussing them with each team individually. I am confident that each of us will do all we can to make it an outstanding success.

The Regulatory and Policy Review Panel will be constantly working with Dr. Bailus Walker as the Regulatory Review Supervisor, and Kyle Olson and Gary Strobel as Administrative Representatives to assure an effective implementation in a timely manner. Should you encounter administrative problems or have any questions, please direct them to Kyle or Gary for assistance.

Your contribution to this project is essential, and is greatly appreciated.

Attachment

COTTON DUST

Econ	Larry Braslow	X37047	N3651
Field	Dave Smith *	X37725	N3603
Health	Susan Harwood	X37148	N3718 ✓
Policy	Raymond Donnelly	X38076	N3622
SOL	Charles Gordon	X39468	S4004
Tech	Long Loo	X37272	N3644

LABELING

Econ	Nancy Wentzler	X37047	N3651
Field	Carl Halgren	X37725	N3603
Health	Jennifer Silk *	X37166	N3663
Policy	Joanne Goodell	X38076	N3622
SOL	Nat Spiller	X39466	S4004
Tech	Roy Resnick	X37183	N3622

LEAD

Econ	Cynthia Bascetta	X37017	N3651
Field	Dean Wingo	X37725	N3603
Health	Jean Savin	X37111	N3718
Policy	Peggy Richardson	X37361	N3622
SOL	Jim Estep	X37732	S4004
Tech	Trish Stewart *	X37193	N3656

NOISE

Econ	Karl Kronebusch	X37505	N3651
Field	Jim Machemer	X37741	N3603
Health	Alice Suter *	X37151	N3669
Policy	Daniel Hoeschen	X38076	N3622
SOL	Sue Sherman	X37205	S4004
Tech	Raymond Kunicki	X37065	N3657

* Denotes Acting Project Team Manager

Mary Ellen Weber	X37048	N3651
Frank Frodyma	X38021	N3629
Ben Mintz	X37732	S4004
Bailus Walker	X37075	N3718
Hays Bell	X37031	N3651
John Miles	X37741	N3603
John Martonik	X38031	N3608
Ike Martin	X38061	N3605
Jim Foster	X39148	N3637
Dan Jacoby	X37711	S4004
Gary Strobel	X38021	N3629
Kyle Olson	X38021	N3629

U.S. Department of Labor

Occupational Safety and Health Administration
Washington, D.C. 20210

Reply to the Attention of:

JUN 17 1981

MEMORANDUM FOR: DAVE SMITH

FROM: BAILUS WALKER

We want to present to the Regulatory Review Panel by July 17 a draft of the revised cotton dust standard.

We realize that there are some unresolved issues but these should not prevent progress toward the development of an appropriate draft.

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U.S. Department of Labor

Occupational Safety and Health Administration
Washington, D.C. 20210

Reply to the Attention of:

[illegible]6 JUN 1981

MEMORANDUM FOR: DAVE SMITH
Cotton Dust Standards Development Team

FROM: BAILUS WALKER

The primary textile industry should be the immediate focus of the revised cotton dust standard.

Other segments and subsegments of the industry will be included as additional dose-response data becomes available.

cc: Kyle Olsen
Gary Strobel
Mary Weber
Ben Mintz
John Martonik

This is RPEP's [illegible] to [illegible] [illegible].

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COTTON DUST

Scope of Standard Revision

SUBJECT: The scope of industry coverage of the revised cotton dust standard, as noted in the project team's issue paper, is a major regulatory issue. Some aspects of the review process may temporarily proceed without a decision on the scope of a revised standard. It should be noted however, that a continued delay in resolving this issue may significantly affect the proposed schedule for review of this standard. The following options are methods which may be utilized in dealing with this important issue.

BACKGROUND: The cotton industry of the United States is traditionally divided into eleven major processes. Excepting the major process of harvesting, ten major processes can be grouped into one of seven major industrial divisions. These divisions include: (1) ginning to remove seeds, dirt, and other contaminants from cotton; (2) warehousing and compressing of cotton after ginning; (3) cottonseed oil mills which utilize the cottonseed separated during ginning; (4) classifying and marketing cotton; (5) yarn manufacturing beginning with the opening of the cotton bales through all process steps up to fabric production; (6) fabric production which includes weaving, knitting and slashing; and (7) waste processing including reclamation of waste and the production of batting and felts. The cotton industry may be generally grouped into two major categories: (1) textile products; and (2) non-textile goods and services. The textile industries include yarn manufacturing and fabric production. The non-textile industries include ginning, warehousing and compressing, cottonseed milling, classifying and marketing, and waste processing. A preponderance of the scientific and economic evidence covers the textile industry, especially the yarn manufacturing segments. The situation is less clear in other industry segments; therefore, the determination of risk for disease may be complicated in instances where certain data deficiencies exist.

Option 1 Initially begin review of the standard by collecting and examining information on all industry segments which are covered by the present standard. If a revised standard is issued covering most industry segments this option would be advantageous in that all the necessary data would have been routinely collected. The disadvantage of this approach is the extended time period which would be required to collect the information.

Option 2 Initially begin review of the standard by collecting and examining information on selected industry segments, especially those where substantial dose-response data is already available for quantifying benefits, such as textile industries. Other industrial segments would be included in the review process when sufficient technical data is obtained to identify specific dose-response relationships as is necessary to quantify benefits. The obvious advantage of this option is that many facets of the review process can proceed without waiting for the development of technical data. The disadvantage is the additional time that will be needed to expand the review process once new technical data is presented.

Option 3 This option will limit the review process to those industry segments where we can demonstrate substantial dose-response data at the present time in this case the textile industries. Other industry segments will be considered at a later date. One advantage of this option is to focus the review process and establish a structured outline for defining tasks and assignments. In addition,many of the variables in the present schedule, such as the continously delayed NIOSH data, will not alter or extend the review schedule. The disadvantage of this option is the exclusion of industry segments on which positive risk data may be developed in the next few years or exclusion of segments where extrapolations or estimates may be used to justify regulation. It should be noted that this approach would not remove the excluded industry segments from OSHA standards consideration, rather those segments would be prioritized with other projects which are in developmental stages such as chromium, pesticides and MOCA.

Steelworkers Ask Reconsideration

In a telegram sent to Donovan Feb. 12, the United Steelworkers of America protested the withdrawal, saying it found the action "difficult to understand." The union urged Donovan to "reconsider this ill-conceived action and reinstate the proposed regulation and public hearings."

Workers "deserve the right to know the hazards of the chemicals they work with. They should be given the opportunity to testify on OSHA's proposal," the union maintained.

"We can only conclude that the Department of Labor under the Reagan Administration is unwilling even to listen to the views of the workers it is supposed to protect from health and safety hazards on the job," the telegram stated.

Michael Wright, an industrial hygienist for the Steelworkers, said the union was aware of industry opposition to the proposal, but thought that the Administration would go ahead with the comment period. From that standpoint, it was "surprised" by the withdrawal, he told BNA.

Administration officials are aware that there is a "great deal of sentiment" on the labeling issue, and "just don't want to hear it," he asserted.

The Steelworkers union has been working actively on the right to know issue for some six to seven years, and does not intend to give up on the matter now, Wright said.

The Oil, Chemical, and Atomic Workers International Union said it regretted "very much the action of the new Administration to drop what was a very basic protection for American workers." OCAW spokesman Jerry Archuleta commented that the union "did not expect the new Administration to act so quickly" against the proposal.

Industry Reaction

The Chemical Manufacturers Association, which criticized the proposal in earlier public statements (Current Report, Feb. 5, p. 1230), was "happy to see" the withdrawal for several reasons, according to Rita Comotto, the association's associate director for health, safety, and chemical regulation.

"So many regulations" were proposed by OSHA just before the change of Administrations that the association does not have adequate time to address them all, Comotto said. Withdrawal of the labeling proposal will "allow an open dialogue to continue between OSHA and CMA" on the hazards identification issue, she commented.

The association does not oppose the concept of a "communications rule," because one set of federal standards would be easier to follow than individual regulations in 50 states, Comotto told BNA. However, the OSHA proposal "eliminated the main things we're concerned about," such as guidelines for worker training and education, she stated.

OSHA's proposal also failed to address the matter of trade secrets adequately, and went "beyond the state of the art" on protection from chronic hazards such as reproductive hazards, the CMA official argued.

Other industry representatives viewed the action as a possible foreshadowing of further efforts by the Reagan Administration to curb regulation. Mark de Bernardo, a labor law attorney with the U.S. Chamber of Commerce, said the withdrawal indicates that Donovan is playing "hardball with regulatory reform at DOL."

Regulatory Reform

NOISE AMENDMENT TO BE SCRUTINIZED FOR ECONOMIC IMPACT, DONOVAN REPORTS

Labor Secretary Raymond J. Donovan announced Feb. 11 that final Labor Department regulations scheduled to take effect after March 30 will be scrutinized closely for their regulatory impact, even though these rules are not included in a current freeze on standards.

Among the rules to be examined, Donovan indicated, is an amendment to the workplace noise standard which will set requirements for employee hearing conservation programs (Current Report, Jan. 22, p. 833).

The amendment is scheduled to take effect April 15, and so was not included in the 60-day regulatory freeze, which pertains only to regulations scheduled to go into effect by March 30 (Current Report, Feb. 5, p. 1225).

The Chamber of Commerce of the United States and other industry organizations have criticized the amendment for its economic impact, and the National Association of Manufacturers has urged that the regulatory freeze be extended to include the rule (see related articles in this issue).

Donovan also announced that, within its legal authority, DOL "will generally refrain from issuing any final regulations during the 60-day review period ordered by the President."

In regard to one of the pending standards being reviewed during the freeze period, the walkaround pay regulation (Current Report, Jan. 22, p. 833), Donovan said that the regulation would cost the private sector an estimated $5.3 million annually. The issue of walkaround pay, he added, may be a matter for collective bargaining and thus outside of OSHA's authority.

Also being reviewed is a plan by OSHA to withdraw approval for the Indiana state safety and health plan (Current Report, Jan. 22, p. 836). Donovan said that Indiana will receive federal funding and may continue to operate its program pending a final DOL decision.

Appropriations

SUBSTANTIAL CUTS IN OSHA BUDGET EXPECTED AS PROPOSAL IS PREPARED

On the eve of President Reagan's budget address to the Congress, observers told BNA that substantial proposed cuts in several program areas of the Occupational Safety and Health Administration are likely for fiscal 1982.

A spokeswoman for the president's Office of Management and Budget said that the Feb. 18 televised address would treat the budget only in general terms, with detailed information on the OSHA budget to be made available soon after. The full Reagan Administration revision of the fiscal 1982 budget requested by President Carter (Current Report, Jan. 22, p. 834) is to be submitted to Congress March 10, according to the OMB.

A spokesman for Labor Secretary Raymond Donovan said that the president has met with the secretary several times and that the budget has been a subject to discussion. In addition, reports have circulated that OMB Director David Stockman met with Donovan to present the "gross figures" of the reductions, with OMB and department staffs working on details through the week prior to the president's address.

Officials at OMB and the department were not commenting on the proposals until after Feb. 18, but several sources said that reductions in current operating levels are expected.

Regulatory Reform

OSHA STANDARDS AMONG RULES URGED BY CHAMBER FOR TASK FORCE ACTION

Some 10 Occupational Safety and Health Administration actions are among the more than 100 regulations that should be revised or rescinded by the Reagan Administration, the Chamber of Commerce of the U.S. urged Feb. 10.

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A list of the regulations criticized by the industry organization was presented to James C. Miller III, executive director of Reagan's task force on regulatory reform, and C. Boyden Gray, counsel for the task force, the Chamber reported (Current Report, Feb. 5, p. 1226).

Recent workplace safety and health standards targeted by the Chamber were these:

▶ The OSHA carcinogens policy. The Chamber called the standard inflexible and costly, and said it should be revised to provide a more flexible, cost-benefit-type approach, and clearer definitions of its categories of chemicals (Current Report, Jan. 29, p. 1097).

▶ Amendments to the noise standard setting requirements for hearing conservation programs (Current Report, Jan. 22, p. 833). The 85 decibel noise limit above which such programs should be instituted is "unnecessarily stringent," and should be raised to 90 dBA, the Chamber argued.

▶ Regulations on walkaround pay (Current Report, Jan. 22, p. 833), which the Chamber asked the new Administration to rescind. The rules were "rushed through before President Reagan took office," and go beyond OSHA's mandate, the organization charged.

▶ Provisions confirming OSHA's authority to seek ex parte inspection warrants (Current Report, Oct. 9, 1980). The regulations "compromise employers' due process protections" and should be rescinded, the Chamber said.

▶ The standard on access to employee medical records, which the Chamber claimed violates workers' privacy. The standard should be revised to provide a narrower scope, the group urged (Current Report, May 29, 1980, p. 1203).

Also cited by the Chamber were controversial provisions from earlier regulations. For example, the lead standard should be revised to eliminate a rate retention requirement, the Chamber said. The organization said that provision goes beyond the agency's authority under the Occupational Safety and Health Act.

The cotton dust standard should be amended to "reduce engineering control requirements," the Chamber suggested. These provisions are too costly, and compliance can be achieved through less expensive methods, the organization contended.

Requirements for urine and sputum cytologies as part of preplacement examinations of coke oven workers should be eliminated from the coke oven standard, the Chamber said, arguing that such tests have "not been proven to be of value in achieving an earlier diagnosis of lung cancer than that achieved by more conventional means (e.g. chest X-ray)."

These tests cost industry $1.6 million per year, the organization stated.

The Reagan Administration should prevent final rulemaking on two projects, a proposed asbestos standard revision and proposed labeling rules, according to the Chamber. The existing asbestos standard is adequate, the group maintained.

Proposed labeling rules are costly and burdensome, and could reveal trade secrets, the Chamber argued. OSHA announced Feb. 13 that it was withdrawing the labeling proposal (see related article in this issue).

List Seen As Reference

Task Force Counsel Gray told BNA that the Reagan Administration probably will use the Chamber list as "a reference to help set priorities." However, the task force will also meet with other business, environmental, and labor groups to get their recommendations on regulatory reform, he said.

Task force officials accepted the Chamber list as an "offer to help," but did not discuss specifics of the list with Chamber representatives, Gray stated.

The task force is not equipped to hear all sides on every regulation the Administration intends to consider for elimination or modification, and was not set up as the Administration's liaison to interest groups on specific regulations, Gray emphasized. The first line of liaison should be the agency itself, where groups can petition for reconsideration of rules, he said.

However, because some agencies do not yet have new administrators, and because those already appointed need time to get up to speed, there is a vacuum that interest groups may be expecting the task force to fill, he commented.

Protective Equipment

INADEQUATE PROTECTION BY MATERIALS INDICATED IN NIOSH IMMERSION TESTS

Most materials currently used in the manufacture of protective garments may be inadequate to protect workers handling halogenated ethanes and polychlorinated biphenyls, according to results of a study by the National Institute for Occupational Safety and Health.

The report, which has not yet been released, covers a variety of materials widely used for protective garments, such as butyl rubber, nitrile latex, neoprene latex, polyvinyl alcohol, surgical rubber latex, and Viton elastomer, as well as other commercially available glove materials such as Teflon.

The samples were immersed in the organic solvents being studied, to determine "breakthrough times," or the length of time it took for the solvents to permeate each material.

According to the study, only polyvinyl alcohol, Teflon, and Viton showed an "appreciable resistance to permeation." However, because PVA reacts with moisture, and Teflon degrades somewhat readily, only Viton "can be recommended as being capable of affording adequate worker protection" under the terms of the tests, the report stated.

A "negative factor" relative to Viton is that gloves made from that material are more expensive than those manufactured from other elastomers, the report said.

The three liquid halogenated ethanes studied — 1,2-dichloroethane, 1,1,1-trichloroethane, and 1,1,2-trichloroethane—are widely used by industry as solvents, chemical intermediates, and cleaning fluids, the report said. They also have shown evidence of carcinogenicity, it added.

Similar hazards have been indicated for PCBs, which have had widespread use as fluids for heat transfer and hydraulic systems, the report said.

In the tests involving 1,2-dichloroethane, the report said that breakthrough times ranged from less than two minutes for surgical rubber latex to more than 24 hours for non-crumpled Teflon. It cautioned, however, that breakthrough time for Teflon was reduced to 90 minutes when the material was crumpled.

Of the other materials tested, only Viton elastomer, neoprene rubber latex, polyvinyl alcohol, butyl rubber, and butyl-coated nylon showed at least a 20-minute breakthrough time, the study found. Butyl rubber and Viton appeared to offer the best protection, but because of apparent lot-to-lot variations in butyl rubber properties, Viton is likely to be the most suitable of the materials, the report asserted.

Nitrile rubber latex, milled nitrile rubber, medium density polyethylene, and surgical rubber were penetrated in less than three minutes, NIOSH found. The report said these materials "would probably be of little use" where contact with 1,2-dichloroethane was frequent or prolonged.

Tests with 1,1,1-trichloroethane found better performance, as a group, among homogenous, non-bonded materials than composite/bonded materials, the report in-

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Lead

OSHA AGAIN DEFERS COMPLIANCE DATE FOR DETAILED ENGINEERING PROPOSALS

Primary and secondary lead smelters and battery manufacturers will have another 60 days to prepare and implement written compliance programs to reduce employee exposure to lead, the Occupational Safety and Health Administration announced Sept. 14 (47 FR 40410).

Employers in the three lead industries originally were to have completed their specific plans to reduce lead exposures to or below the permissible exposure level by June 29.

However, since the plans would require "costly engineering plans and studies" as well as detailed compliance schedules, OSHA on June 18 stayed the requirement pending reconsideration of the lead standard and deferred the effective date to Aug. 30 to allow the agency to consider comments on the proposed stay (Current Report, June 24, p. 83, 102).

In June, OSHA Administrator Thorne G. Auchter said that the deferral would "spare employers in these industries the expense of developing a detailed schedule for compliance with long-term engineering requirements which are now under agency reconsideration."

Because of the number of comments it has received, OSHA said in its latest notice that it will need additional time to ensure full consideration of the record prior to deciding whether to issue a stay. The lead industries will have until Nov. 15 to complete the compliance plans which "should allow sufficient time to complete decisionmaking and prepare a final document," the agency notice stated.

Due to the short deferral period, public comment on the temporary notice stay "is impractical and unnecessary," OSHA added.

Regulatory Reform

OMB URGES OSHA TO SPEED REVISIONS, PAY GREATER ATTENTION TO HEALTH RULES

The Occupational Safety and Health Administration should accelerate its reviews of standards targeted by the President's Task Force on Regulatory Relief by reducing efforts to issue new standards and shifting its emphasis from safety to health regulation, the head of the Office of Management and Budget's regulatory review division advised the agency.

The OMB "suggestions" were included in a letter from Christopher DeMuth, administrator for information and regulatory affairs, to Labor Solicitor T. Timothy Ryan. The Aug. 16 letter represented the conclusions of a periodic review of Department of Labor regulatory reforms conducted by OMB staff, DeMuth said.

The OMB evaluation found that OSHA is "behind schedule" in its reviews of the cancer policy, the general policy favoring engineering controls over personal protective devices, occupational noise, commercial diving, cotton dust, and lead. The letter said the Labor Department's current timetable calls for a final rule on the cancer policy by June 1983 but denotes the dates for final action on the others as "uncertain."

Other dates given were next month for a commercial diving proposal, November for a lead proposal, and January 1983 for a noise proposal.

"These dates represent slippages of [those] submitted to OMB last summer, and we are worried that they may slip further," DeMuth wrote Ryan. "Currently likely final action dates of late 1983 or 1984 (given that it ordinarily takes DOL a minimum of one year to publish final 'major' regulations after publication of a proposal) for these important and controversial regulations represent a troublesome regulatory lag."

The OMB regulatory chief said he "especially" would urge acceleration of action on the cancer policy revision, designated by DOL to be issued as a proposal next month, and the engineering controls versus protective devices rulemaking, for which all target dates were given as "uncertain."

New Rules, Safety Efforts

DeMuth suggested two shifts in priorities that "might facilitate" acceleration of the reviews. The first would be to reduce efforts to issue new regulations in favor of expediting existing reviews, and the second would be to shift emphasis from safety regulations to health regulations, "where the social payoff should be greater."

He added, "Although we recognize that there might be difficulties with these suggestions, the importance of the problem warrants serious consideration of means to expedite the review effort."

New rulemakings that DeMuth said "may be consuming a disproportionate share of resources" were health standards for ethylene oxide, ethylene dibromide, hazard communication, and asbestos, and safety standards for concrete forms and shoring, the oil and gas well drilling industry, and grain handling facilities.

He also questioned OSHA's plan to issue 16 new or revised safety standards by 1984 (Current Report, March 11, p. 812), saying that "most students of OSHA regulation have recommended that the agency concentrate its resources on health standards, because workers are less apt to be aware of workplace risk from illnesses, and because government standards are less able to prevent accidents than illnesses."

DeMuth continued, "Indeed, numerous studies have failed to find any impact in reducing the risks of accidents from OSHA's safety standards. Even though OSHA has attempted to make its safety activities more effective in response to these findings, a forthcoming study . . . concludes that these efforts produced 'negligible o[illegible]conclusive' effects."

The six rules whose rev[illegible] are behind schedule have been documented to be "c[illegible]effective" by numerous studies, DeMuth said. Expe[illegible]d review of these, he maintained, "has the potential of large payoffs in both improved health and reduced compliance costs."

Critique Said 'Routine'

Officials and staff at OSHA and OMB characterized the letter as a routine critique performed by one executive agency on another. "OMB is not dissatisfied with the work we have done," Deputy Assistant Labor Secretary Mark De Cowan told BNA. "We have a very good working relationship with Chris and Jim Tozzi [DeMuth's deputy]. This should not be interpreted as anything more than a little prodding."

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An aide to DeMuth similarly called such letters "routine," saying, "We do prod each other in the executive branch from time to time." Ryan was not available for comment.

Asbestos

MANVILLE DEFENDS BANKRUPTCY DECISION AT HOUSE HEARING; U.S. MAY ENTER CASE

At a House subcommittee hearing marked by sharp questioning from Democratic members, Manville Corporation officials Sept. 9 defended the company's decision to seek Chapter 11 bankruptcy protection from asbestos-related disease liability suits and argued that the federal government, because of World War II naval shipyard exposures, must contribute as a responsible party to any compensation fund Congress establishes.

Rep. George Miller (D-Calif), chairman of the House Education and Labor Subcommittee on Labor Standards, countered that such a scheme "would establish a dangerous precedent which could open the doors of the Treasury to every manufacturer of a hazardous product or substance" faced with liability problems that he charged are "of its own making."

Citing government compensation to stricken former federal employees and what he said was the $3 billion annual cost of occupational disease to the Social Security disability system, Medicare, and other government health programs, Miller declared, "Let none of us be confused further by industry's allegation that much of the blame for the bankruptcies is due to the failure of the government to meet its financial responsibilities."

The subject of the Miller hearing was Manville's filing late last month for protection of its assets under Chapter 11 of the U.S. Bankruptcy Code, in which it cited the burden of 16,500 current asbestos liability suits and another 32,000 it expects on the basis of statistical projections (Current Report, Sept. 2, p. 283). Manville renewed its call then for the federal government to share in the financing of a compensation fund for victims of asbestos-related disease, a scheme that runs counter to legislation introduced by Miller (HR 5735) that would hold industry solely responsible for supporting the fund (Current Report, March 11, p. 811).

Government Gives Position

Assistant Attorney General J. Paul McGrath, head of the Justice Department's civil division, disclosed during the hearing that the government was actively considering entering the bankruptcy proceedings, either as a creditor or as an entity with "at least an indirect and perhaps a direct interest" as a party in some 1,200 suits involving nearly 13,000 claims or if the freeze on liability suits gained by Manville's bankruptcy petition would result in increased federal disability and health-care claims.

The government also could possibly enter the case and argue that the Manville filing was an improper use of federal bankruptcy laws, McGrath said during further questioning by Miller. But he cautioned that, though the move was being considered, it would be inappropriate to spell out prematurely a position that might be taken in litigation later.

McGrath discounted any claims of federal government liability, saying that third-party suits against the government are barred by statute and the principle of sovereign immunity. In cases involving the alleged failure of government safety and health inspectors to communicate their findings to exposed workers, he added, government activities "were never intended as a substitute for proper discharge of primary responsibility of private employers, lest they relax their efforts."

Liability suits against the government based on the inspection and research activities should not be allowed to succeed, he continued, warning of a chilling effect on health and welfare efforts and the possible outcome that the government would be "charged with the cost of abating the wrongs it attacks."

U.S. Culpable, Firm Charges

Manville Senior Vice-President G. Earl Parker argued in his testimony that "in every moral, social, and legal sense the federal government is responsible for a substantial number of the asbestos disease cases we see today." Under the Walsh-Healy Public Contracts Act of 1936, he contended, the government was responsible for providing a safe work environment for workers under its control and "failed to do so" in cases of asbestos exposure.

Parker maintained that the government knew as much about asbestos health risks as did the manufacturers but nonetheless specified that asbestos be used, employed workers exposed at levels it knew to be hazardous, and stockpiled and sold raw asbestos and asbestos products. Were it not for the sovereign immunity defense, the government "would have been found culpable in the vast majority" of asbestos suits decided to date, he maintained.

Legal considerations aside, the industry official stated, established principles of equity and social policy dictate the government's bearing a "fair share" of responsibility. Citing the necessity of the shipyard work to national defense, he argued, "The government has established generous benefit programs for veterans and their families. Its obligation should be no less to the workers who gave their lives or their health in the shipyards to support the national defense, simply because their injuries appeared 30 years later."

Democratic subcommittee members expressed skepticism over the Manville testimony, with Rep. William R. Ratchford (D-Conn) contesting the company's proposal by saying, "You know the size of the federal deficit. You know the public's attitude toward deficits. Where is this money going to come from?" At another point, when Parker interjected that a future liability scenario Miller was laying out in his questioning did not take into account the possibility of the federal government stepping in with funding, the subcommittee chairman retorted, "You've got a snowball's chance in hell of that happening."

In defense of the bankruptcy filing, Manville officials and attorneys contended that, based on contingent liabilities due to expected future claims, the company would have had to post in reserve some $1 billion more than its current assets in order to satisfy accounting requirements. Such a move would have sacrificed the company's financially healthy operations to liquidation or collateralization, Parker maintained, and this in turn would have ruined its ability to pay future claimants.

Turning the litigation over to a bankruptcy judge, he further contended, provides a more efficient administrative determination of present and future claims. "Without bankruptcy, perhaps the first 5,000 claimants would be paid, but what of the 45,000 others?" the company official asked.

Rep. W. Eugene Johnston (R-NC) offered support for Manville's defense of the bankruptcy move, telling the [illegible] of company officials, "It would [illegible] producing wealth rather [illegible] lawyers."

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The new OSHA

Less rulemaking... more voluntary compliance

After eleven years, the Occupational Safety and Health Administration is still an experiment. Each new administrator brings a new approach to worker safety and health, and Thorne G. Auchter, the current OSHA chief, is no exception. In his first 18 months, Auchter has made dozens of changes in the way the agency enforces its regulations—generally easing up on companies with good records—and he plans to rewrite a number of health standards to make them more flexible and easier for industry to obey.

The contrast with OSHA under the previous Administration is vivid. Then, the agency saw itself first of all as the representative of the worker, and it pressed industry hard.

The truth is that since its inception, regardless of who has been in charge, OSHA has had less than a hoped-for effect on industrial injury rates. For instance, the number fof lost workdays per 100 full-time workers actually has increased, from 40.4 to 48.7, in the nine years from 1972 to 1980.But because of his high visibility and his reordering of agency priorities, which have made him political enemies, Auchter must produce. He must improve worker safety and health, and industry knows it.

Pendulum. "There's been a 180-degree turnaround in the enforcement of the Occupational Safety and Health Act," says G. Wayne Bonner, Tenneco's director of safety and health. "If we don't see any marked improvement in the injury rates of American workers, the pendulum will swing, and it will be far worse than it ever was [for industry]." Yet, he adds, "if it works, Thorne Auchter will be the greatest hero ever to hit safety and health."

But with labor "there's a sense of disillusionment with OSHA as a meaningful tool,"says Richard Lewis, occupational and environmental health specialist for the International Chemical Workers Union. "Workers are losing faith in the agency."

Auchter, without a doubt, has turned OSHA around.and the chemical industry is breathing a huge, collective sigh of relief. Whether the new freedom, as Randal P. Schumacher, director of health, safety and chemical regulations for the Chemical Manufacturers Assn., puts it, "allows the creative genius" of industry to forge ahead on safety and health, or whether it takes too much pressure off chemical employers remains to be seen.

Company officials almost unanimously say that Auchter and the Administration are going in the right direction. "OSHA is doing a fine job. It is the best managed of all the administrative agencies,"says Lee Starr, Celanese's director of environment, health and safety affairs. Ronald A. Lang, executive director of the Synthetic Organic Chemical Manufacturers Assn., praises Auchter's "pragmatic" approach.

However, organized labor sees the gains it made during the Carter Administration—during which OSHA issued a number of major rules—slipping away. In fact, labor leaders say, Auchter has little basis, other than political, for reopening rulemakings on hard-won health standards—such as, lead, cotton dust, hearing conservation and worker access-to-records—or for granting employers blanket exemptions from enforcement. "It's outrageous," says Franklin E. Mirer, director of the safety and health department of the United Automobile Workers Union. "They're going backwards, and we have a lot of work to do on new occupational health standards."

Auchter has reshaped OSHA in his image of a federal agency. Now he must produce

Activist. The 37-year-old Auchter, the youngest OSHA administrator in the agency's existence, came into office having served as executive vice-president of his family's construction company in Jacksonville, Fla., and as special-events director in Florida for Ronald Reagan's 1980 campaign. A forceful personality, Auchter immediately began revamping policy and practice in the area where he had the most ideas—enforcement.

The results have been dramatic. In Auchter's first nine months (February 1981 through October 1981) the average number of monthly inspections was down more than 18% when compared to the same period in 1980 under the previous Administration; inspections in response to worker complaints, down 33.5%; complaints filed by workers, down 30%; follow-up inspections, down by more than 70%; violations labeled serious, down by 37%; willful citations, down over 80%; and penalties levied, down 65%. More recent figures are not available, but agency officials say 1982 figures should be similar.

Employers are responding generally by reducing the rate at which they legally challenge OSHA citations. Instead of contesting 22% of the citations issued by the previous Administration, employers are contesting fewer than 6%.

Boy Scout. "There is a tremendous change in attitude in the agency," says Tenneco's Bonner. Where the OSHA inspector used to be the focus of industry stories about citations for improper toilet seats or stair-rail heights, that same inspector, in the eyes of industry, has achieved something approaching Boy Scout status: courteous and helpful. The most important thing Auchter has done to date, Starr says, "is to move OSHA from the role of policeman to the role of advisor and consultant."

To force this turnaround, Auchter

Starr: "best managed" administrative agency.

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wrote memos to the agency's 1,100 field personnel on demeanor and inspection preparation. He initiated a policy of "talking back" to OSHA, under which inspectors ask employers and employees to fill out questionaires following an inspection. And he has implemented a new data system which closely monitors inspector activity. All this has been designed and implemented with one thought in mind: to respond to complaints about inconsistency in OSHA enforcement as conducted by the agency's ten regions and 80 field offices. "He's lassoed in those people," says Mark A. DeBernardo, labor-relations attorney for the U.S. Chamber of Commerce.

The most controversial enforcement changes came with Auchter's plan to exempt certain employers from surprise OSHA inspections. In October of last year, the agency instituted a plan to exempt certain employers from "general schedule" safety checks if their lost-work-day rates are below the national average for manufacturing: 5.2/100 workers. After the first six months of this new program, some 3,830 records-only inspections have been conducted out of the 28,000 inspections made by OSHA from October 1981 through March 1982. A new and separate "voluntary" program for compliance with agency regulations (*CW, July 7, p. 14*) will offer qualifying employers exemptions from inspections.

Auchter now is working on a "targeting" system for health inspections—an admittedly more difficult task than checking on safety standards. Injuries are easier to document and workers' comprehensive insurance provides a data base. Health effects, on the other hand, involve occupational diseases, which may take 20 years to develop and longer to document.

More with less. The idea, says Auchter, is management by exception—to get the agency's inspectors to the most hazardous workplaces. "Our challenge," he says, "is to do more with less." With only 1,100 inspectors, OSHA can visit only about 2% of the sites it is authorized to inspect. Yet The Occupational Safety and Health Act of 1970, which created OSHA, orders the agency to cover nearly three million workplaces and over 40 million workers.

Industry observers believe Auchter's plan is working, many pointing out that the complaints about inspections have dropped noticeably. "This should go a long way in getting inspectors to the right place at the right time," says Richard F. Boggs, vice-president for Organization Resources Counselors, an industry-sponsored consulting group that includes several major chemical firms.

Industrial unions are not convinced. They have always supported efforts to aim inspections at the more hazardous workplaces, but they have long opposed any policy of exempting companies from inspections. Now, under the current OSHA administration, with even the minimal threat of an agency inspection gone, they say the pressure on companies to comply with workplace

The evolution of Reagan's OSHA

January 1981. Before leaving office, former OSHA administrator Eula Bingham issues major proposals for a new labeling rule and revised carcinogens policy, plus final rules on hearing conservation and walkaround pay.

Feb. 17. President Reagan signs executive order 12291, ordering agencies to submit rules to cost-benefit tests and setting up an office of management and review for checking regulators.

Mar. 25-27. Vice-President George Bush, chairman of the new Presidential Task Force on Regulatory Relief, says 62 rules will be postponed or reviewed. On Mar. 27, new OSHA head Thorne G. Auchter, less than two weeks after taking office, announces a plan to revise the June 1978 cotton dust standard, asking the Supreme Court to hold off on a decision concerning industry challenges to the rules.

June 17. The Supreme Court says OSHA cannot use cost-benefit tests as the overriding factor in deciding to regulate health hazards. It upholds cotton dust regulation as expensive, but necessary. OSHA says it will review the rule anyway.

July 21-23. Auchter holds a meeting in Colorado Springs with regional directors and field personnel. Controversial plans are unveiled to rewrite policies on citations, penalties, response to worker complaints, inspection targeting, and to introduce "voluntary" protection programs.

August. OSHA proposes to rewrite hearing-conservation standard, claiming that the new version would save about $2 billion initially. The agency argues with OMB before the proposal is issued about how detailed the provisions should be. Public hearings on the proposal are to be held in the spring of 1982.

Oct. 1. New targeting system goes into effect to exempt employers with good safety records in manufacturing from surprise safety inspections. Over 3,000 "records-only" inspections have been conducted so far.

Dec. 1981-Jan. 1982. Auchter denies requests for emergency standards on ethylene dibromide by the Teamsters, on ethylene oxide by the Public Citizen Health Research Group, and on formaldehyde by the United Automobile Workers. OSHA asks for more information on EDB and ETO.

February. A series of enforcement changes, following earlier directives on demeanor and scope of inspections to the field, are issued: They include new procedures on handling worker complaints, cutting on-site response to situations where physical harm may be imminent (Feb. 1); restricting use of "general duty clause" citations that had been used where OSHA standards were outdated or lacking. (Mar. 17); amending policy on repeat violations, imposing a three-year limit on when employers may be cited again for the same violation (June 25); directing inspectors to offer abatement advice where appropriate (June 25); and exempting employers using OSHA's $20-million on-site consultation program from some inspections (July 9). Voluntary programs are encouraged as well, allowing employers with good safety records to apply for exemptions from both safety and health inspection (July 9).

March. OSHA reproposes a rule on hazards communications and labeling, after six months of haggling with OMB.

Apr. 7. Preliminary risk assessment shows that the 1978 arsenic standard reduced worker risk of lung cancer in some industries by 98%.

May 23-25. The AFL-CIO holds its "Second Conference on Occupational Safety and Health "in Washington, D.C., with posters implicating new OSHA policy in worker deaths by depicting a tagged foot of morgue-bound body. Auchter fires off a letter to AFL-CIO safety director George H.R. Taylor and to the union's president, defending new policies.

July 13. Major changes are proposed in rules governing worker access to medical and exposure records. Hearings to be held in October.

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regulations has really been removed.

Along with the change in inspection policy, the agency is busily revamping a host of standards issued under the Carter Administration, including those concerned with cancer policy, toxic substances and noise.

A workers' march. Perhaps the best example of the sensitivity of this issue occurred last spring, when hundreds of textile workers from the East Coast marched on the Labor Dept. in a protest of Auchter's announced plans to rewrite regulations on cotton dust. Those regulations, issued in 1978, ordered the industry to install expensive engineering controls to reduce worker risk of byssinosis, a chronic lung disorder, by reducing in-plant exposures by more than half. The textile industry maintains the standard went too far. And Auchter seemed to agree. But that was before the Supreme Court upheld the standard in a 5-4 decision in June 1981, which surprisingly endorsed OSHA's authority to set extensive regulations.

Union officials point to cotton dust as an example of the Administration at its most arrogant. "There's a free-floating anti-regulation feeling," says one union safety and health representative. "They're just looking for rules to get rid of."

Auchter, of course, denies this and cites "ill-conceived and confusing" rules issued by previous Administrations. Operating at a frenetic pace during his 18 months at the agency, Auchter has concentrated on changing those rules. The past year has been spent collecting information and issuing three proposals to change previous OSHA actions on hearing conservation, labeling and access to records. For industry, the signs are good. "The proposals have been altered in a direction more favorable to us," says Donald W. Hillman, Diamond-Shamrock's corporate medical director. But, he adds, "When it comes right down to it, the tough decisions have yet to be made."

The new OSHA has the old bottom line: to improve worker safety and health

During the two years remaining in this Administration, OSHA promises to issue final rules and new proposals on more than hearing conservation, labeling and access to records. The agency also pledges to deal with respiratory protection, lead and cotton dust, and arsenic, and has promised a list of 16 safety standards, including confined spaces, electrical hazards and walking/working surfaces.

An example of what awaits Auchter as he opens the regulatory process in each of these areas can be found in his action on labeling. From March through September 1981, Auchter held numerous meetings with industry and labor, searching for a consensus on changes to Bingham's sweeping, eleventh-hour labelling proposal. Finally, OSHA came up with a plan calling for manufacturers and formulators to choose substances for labeling that met certain criteria as a hazard, such as positive animal tests or positive results in human epidemiology.

At the Office of Management and Budget, Christopher C. DeMuth, director of the Office of Regulatory Affairs, remained unconvinced of the need for a federal rule despite pleas from major chemical companies that the increasing number of conflicting state rules in the

Carcinogens, the toughest issue

The Reagan Administration has targeted the Occupational Safety and Health Administration's tough carcinogens policy as a top candidate for regulatory reform, but changes in the controversial rule are at least a year away. In the meantime, OSHA, like other federal agencies, is under increasing pressure to come up with a plan to regulate cancer-causing chemicals as animal studies continue to link various substances, such as ethylene dibromide, formaldehyde, and ethylene oxide, with tumors or genetic effects. It is becoming clear that the Reagan Administration will not rush into judgment against these chemicals.

Rewritten rule. Industry scientists applaud OSHA's steps to rewrite its January 1980 policy on carcinogens. The policy had originally required that permissible exposure levels be reduced to the "lowest level feasible" by engineering controls once positive animal or human studies were reported. However, then-Assistant Labor Secretary Eula Bingham was forced to rewrite the rule after the Supreme Court, in its 1980 benzene decision, said OSHA had to prove that workers would be protected from substantial risk of harm before expensive engineering controls could be ordered.

Four steps. Auchter wants to cut back even further. For carcinogens and other chemicals that may pose a risk to humans, says Mark D. Cowan, Deputy Assistant Secretary of Labor for OSHA, "we will do four things: determine significant risk, demonstrate the ability to reduce that risk, look into the technical and economic feasibility of controls, and select the most cost-effective route. In many cases, we'll have to have a great deal more information before we regulate than we did in the past."

The Reagan Administration has spent its first 18 months collecting data. Organized labor believes this review is a smokescreen for inaction, but industry is convinced that the agency's caution in this area is necessary. "OSHA is making judgements in an area [chemical carcinogenesis] that's on the cutting edge of science," says Leonard J. Guarraia, director of government relations for the Synthetic Organic Chemical Manufacturers Assn. "It can't act precipitously.

But perhaps, some health experts say, the agency's enthusiasm for regulatory relief goes too far on the cancer issue. "I believe we have to move prudently when we don't understand things," says former Assistant Secretary of Labor Morton Corn, who now is director of the division of environmental health, Johns Hopkins School of Hygiene and Public Health. "I would act on the animal data; then we'd have time to figure out the precise mechanisms and such later.

Ethylene oxide. Organized labor and public health groups are demanding that OSHA and other regulatory agencies take emergency action to reduce exposures to several substances. The Public Citizen Health Research Group wants more stringent limits on ethylene oxide, and it has filed suit in federal court in Washington, D.C., against OSHA. In May 1981 the National Institute for Occupational Safety and Health (NIOSH) warned of the chemical's possible carcinogenicity. At the same time, the American Conference of Governmental Industrial Hygienists suggested that permissible limits for the chemical be set at 10 ppm, with a further lowering to 5 ppm

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area had to be stopped. This haggling between OSHA and OMB went on for six months, jamming up the labeling proposal in the regulatory machinery. Finally, Vice-President George Bush, at the urging of influential Republicans like Joseph Coors and Justin Dart and with the help of an independent assessment by Duke University, pried the original proposal out of OMB. Auchter issued the labeling proposal March 1982, when he was to be grilled by a House subcommittee about his failure to produce the promised labeling regulation.

Industry officials admittedly are satisfied with the warmer climate at OSHA. But with each new announcement from the agency about a change in policy, relations with organized labor become cooler and the rhetoric intensifies.

An open door? Auchter professes to have an open-door policy with labor as well as industry. He has been partly successful in negotiating compromises on standards and enforcement with construction unions, with which he has had previous experience as a construction-company executive.

But Auchter's poor relationship with industrial unions persists, and observers in both industry and labor believe this is part of the larger problem of the general discord between the Reagan Administration and Lane Kirkland, president of the AFL-CIO. Yet Auchter's recent attacks on labor have exacerbated the situation, increasing the difficulty of establishing a working relationship between OSHA and organized labor.

Labor's Lewis: 'A sense of disillusion. Workers are losing faith in the agency'

Tough talk. As an example, in May Auchter fired off a letter to AFL-CIO safety chief George Taylor, which charged Taylor with providing OSHA with "rhetoric and hyperbole" instead of helping the agency to make tough decisions. Further, Auchter sent letters to three union chiefs that described Taylor, who is Auchter's most vocal critic, as a "lingering problem." Taylor shrugs off the letters, but his union colleagues viewed them as an attempt to get the popular Taylor fired. Even industry officials are uncomfortable, with one noting that Auchter "certainly has reduced the adversary relationship with business, but it just doesn't seem to be working with labor," adding, "why he does these things [like the Taylor letter], I don't know." Auchter ignores such criticism and plows ahead on health-standards revisions with or without a consensus.

Whether Auchter is successful in reshaping health standards or not, it is clear that he has reshaped OSHA. What he has to prove, however, is that the dozens of enforcement changes he has made in the past year, and the less-rigid health standards he is developing, will improve worker safety and health.

This gives the chemical industry unprecedented opportunities to operate without government interference—but the environment is not totally one of laissez-faire. "For years, business has complained about OSHA's nit-picking, poor organization, and adversary posture," Auchter says. "We said we'd do something about those problems, and we are. And business had better meet us half-way. Otherwise, the old OSHA of monstrous standards and mindless enforcement will rise from its grave." ☐

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in the future. In January 1982, OSHA said it would take a new look at its standard of 50 ppm over 8 hours.

And the Teamsters have urged OSHA to reduce permissible limits for the fumigant ethylene dibromide, much as the California Occupational Safety and Health Administration has already done in lowering permissible exposure limits for the chemical from 20 ppm to 0.13 ppm. In Dec. 1981, again asking for data, OSHA acknowledged that the 20-ppm level may not provide "adequate" protection.

Tumors. But it is the debate over formaldehyde regulation that has crystallized the issues involved in regulating possible carcinogens. In 1978, the Chemical Industry Institute of Toxicology notified the Environmental Protection Agency and the industry of nasal tumors in rodents exposed to high levels of formaldehyde. It was the first time, after nearly a century of widespread use, that concern had been raised about formaldehyde beyond its acute respiratory and irritant effects. A second study, at New York University, also showed tumors in animals following their exposure to extremely high levels of formaldehyde. But studies of morticians and others exposed over long periods have demonstrated no cancer links.

Government actions so far have been as confusing as the data. The Consumer Products Safety Commission voted 4-1 last February to ban urea-formaldehyde foam insulation after its panel of government experts concluded in November 1980 that formaldehyde poses a human cancer risk. NIOSH warned in April 1981 of potential cancer effects and called for reduced exposures.

No emergency. But the Food and Drug Administration, EPA and OSHA have decided not to treat formaldehyde as an emergency situation. In January OSHA denied an October 1981 request from the United Auto Workers to reduce allowable limits immediately from the current 3-ppm standard. Instead, OSHA and EPA are reviewing data and are waiting for results of a joint epidemiological study by the National Cancer Institute and the Formaldehyde Institute.

Under the original cancer policy, OSHA probably would have been forced to regulate formaldehyde immediately. Negative epidemiological studies would not have been considered acceptable evidence, and the two high-dose animal studies would have carried all the weight. That scientific view, industry and some academic experts say, is preposterous and excludes proper consideration of relevant data, such as the epidemiological studies. So far, the debate over formaldehyde and the other chemcicals has centered on scientific theory and on the validity of the animal studies. But Administration officials are certainly aware that declaring formaldehyde, one of the world's most widely used substances, a cancer-causer could have devastating economic consequences.

The Reagan Administration has yet to issue any explicit policy for dealing with carcinogens like formaldehyde, but it is working on it intensely. The Office of Science and Technology Policy at the White House has set up a group of agency officials to develop a government-wide statement to guide agencies assessing cancer risk. That report, like OSHA's carcinogens policy proposal, should be out by year's end. In the end, the Administration is likely to require that chemicals meet demanding tests before they can be regulated as human carcinogens. It is doubtful, however, that this Administration will be any more successful than the last in achieving a consensus on regulating possible carcinogens and laying the complex issue to rest.

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THE NEW YORK TIMES, SUNDAY, AUGUST 8, 1982

The Cotton Dust Storm Returns

The textile union thought the health issue had been settled, but OSHA decided to review its standards.

By DOUG McINNIS

RALEIGH, N.C.

FOR the Textile Workers Union, the issue is the right to breathe clean air. For the textile industry, the issue is a set of health standards that it considers far too strict and a price tag for meeting them that could reach $2.5 billion or more.

In question is just how to cope with a debilitating lung disease linked to prolonged exposure to cotton dust. The disease is called byssinosis, or brown lung, as it is known in the Southern textile belt where thousands of workers suffer from it.

Both sides have been feuding over the issue since the 1970's, when the Occupational Safety and Health Administration began the lengthy process of setting health standards for the nation's industries. A 5-to-3 Supreme Court decision in 1981 upholding the tougher cotton dust standards sought by the union was thought to have settled the matter.

In fact, the battle appears to be just beginning. In February, citing new health studies, the Reagan Administration said that it would review the current standards, which call for sharp reductions in factory cotton dust levels by 1984. Hearings are expected late this year or early in 1983.

"It's not just us and the companies," said Eric Frumin, health and safety director of the union. "The Government is taking an active role on the side of industry."

Mark D. Cowan, deputy administrator of the Occupational Safety and Health Administration, disagrees. "We're on the side of health and safety in the work place," he said. "There is no other goal."

The review could lead to substantial changes, and organized labor views the move as an Administration effort to water down the standards.

Moreover, labor charges that the cotton dust review is part of a larger Reagan Administration blueprint to dilute a host of factory health regulations already on the books. These include regulations dealing with lead exposure, hearing loss, and the right of workers to learn from their employers what dangerous substances they have been exposed to. All have been selected for review by OSHA, which denies labor's charges.

To date, OSHA has announced plans to review eight existing regulations, according to the A.F.L.-C.I.O., which closely monitors the situation.

SINCE the agency's founding in 1971, only about 17 industry standards have been set, or are being set, said George H. R. Taylor, the labor union's health and safety director. And he expects the Administration to subject other standards to review, including regulations designed to reduce worker exposure to asbestos.

"They're busily at work cutting the foundations out from under the standards," Mr. Taylor said.

"I disagree with that 100 percent," countered Mr. Cowan He said his agency is conducting reviews to see if workers can be given the same protection at less cost, or in some cases to modify the standards if they turn out to be more strict than needed.

The opposing views on the cotton dust issue illustrate a basic philosophical difference among labor, industry and the Government on how to achieve safe working conditions.

The cotton dust review hits two long-time adversaries. On one side is the 400,000-member Amalgamated Clothing and Textile Workers Union. On the other is the American Textile Manufacturers Institute, which represents about 200 companies that control 80 percent of the textile industry's production capacity.

For all sides the stakes are high. For the textile union, the current cotton dust standards represent victory for a union that has met heavy opposition and frequent frustration in its goal of improving the lot of Southern textile workers.

For the textile industry, the review offers a chance to escape some of the multibillion-dollar expenditures it has said will be needed to fully comply.

"We have felt, along with most of the rest of the industry, that the standards, while not all bad, were unnecessarily demanding in terms of cotton dust levels," said Haven Newton, vice president of industrial relations for Fieldcrest Mills Inc., of Eden, N.C.

For workers, the review means possible changes in the means of combating one of the most debilitating industrial diseases. While the number of incidences of brown lung is still debated, earlier Federal estimates have suggested it is substantial. A 1979 Labor Department report estimated that 84,000 of the nearly 560,000 production workers in the cotton industry had brown lung in various stages.

The same report put the number of permanently disabled workers at 35,000 in textiles alone. Jobs that involve exposure to cotton in various industries include warehousing, yarn manufacturing, fabric manufacturing and processing of cotton waste.

The disease is thought to be caused by exposure to the leaf-like part of cotton, rather than the white cotton fibers. The dust that does the damage is thought to be microscopic, rather than the visible particles of dust easily seen in factories. Described as a progressively disabling disease, the symptoms include chest tightening, wheezing, shortness of breath and coughing.

While both industry and the union call publicly for a solution to the problem, they are expected to agree on little, if anything, as the review unfolds. "We're going to say it's day; they're going to say it's night," said the union's Mr. Frumin.

One clear-cut area of disagreement is how much to rely on costly machinery, which includes specialized production equipment and ventilation systems to cut worker exposure to cotton dust. The industry wants such expenditures minimized, with greater reliance on less costly procedures, such as switching workers prone to the disease to less dusty environments, or using respirators. The union counters that air-filtering machinery is more effective. And it says that respirators are burdensome and uncomfortable for workers, and do not work.

THE textile institute argues for lower standards, citing new evidence it collected that it says shows the incidence of brown lung is less than earlier thought. "Byssinosis is very much under control," said John Titsch, the institute's safety and health director.

The institute's study, published earlier this year, was based on a survey of 142 textile companies with 400,000 employees, of whom about 150,000 worked in cotton textile jobs. The textile union disputes the institute's findings, and has has some backing from the National Institute for Occupational Safety and Health, which has formally asked OSHA to disregard the industry's conclusions. The safety institute, a Federal agency, said the design of the survey "violates many basic premises" of the study of diseases."

The current debate is compounded

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by the fact that much of the machinery needed to meet cotton dust standards also improves the industry's productivity. Because of this, Mr. Frumin asserted, "the standard is not a hindrance to good management, it's an aid."

The union cites, for example, machinery for breaking open bales of cotton and feeding it into machines without the aid of workers. The machines not only remove workers from a dusty job, but they move cotton far more quickly than ever before.

But industry officials contend much of the clean-up money goes for air handling equipment, rather than productive new machinery, and some say the standards have had the secondary effect of shutting plants.

"They're putting more money into machinery as a result of the standards," said Edward F. Johnson, director of Johnson Redbook Services, a unit of Prescott, Ball & Turbin, in Cleveland, which follows the textile industry. But he added, "They've also closed plants that aren't economical to convert. It's had a shrinking effect on the industry."

The union takes issue with contentions that the standards have closed factories. "There have been plenty of plant closings in the last few years," said Mr. Frumin. "They haven't sought to blame it on OSHA."

Moreover the union maintains that the issue of whether companies can afford to comply is beside the point. "You don't relax the minimum wage based on inability to pay," said Scott Hoyman, head of the Amalgamated Textile Division. "And you don't allow people to breathe dirty air based on the inability to buy clean machinery."

The union contends that many employers have already gone a long way toward meeting stiff new dust standards of 200 micrograms per cubic foot of air by 1984. Among the leaders are Burlington Industries Inc., the nation's largest textile concern, and J. P. Stevens & Company, the second-largest. The industry acknowledges some progress in documents that the textile institute has filed in the cotton dust review. The documents show that an industry survey of 50 companies found they had spent about two-thirds of the $460 million they thought would be necessary to meet the standards.

But the institute added in the documents that it was unlikely these firms were typical of the industry as a whole. Companies that failed to respond to this survey probably have the bulk of their expenses still before them, the institute said.

Even without meeting the cotton dust limits, the current standards already require compliance with other regulations. These include requirements for medical surveillance, avoidance of unsafe conditions such as blowing dust in the air, and monitoring factory cotton dust levels.

The union and the industry differ on another key issue — the prevalence of brown lung. The industry contends that brown lung is not nearly so prevalent as once thought. It cites the result of a textile institute study, released earlier this year, that found that less than one-half of 1 percent of cotton dust workers surveyed suffered from brown lung. The industry said this data was collected under Federal brown lung monitoring requirements.

"The industry has argued all along that the problem wasn't as severe as claimed," said Mr. Titsch of the institute. "We really found that the data collected by the Government's rules verified that."

He said that the industry can prevent new cases by a combination of medical surveillance and switching prime candidates for the disease to jobs away from dusty environments.

The biggest problem, Mr. Titsch said, is retrofitting older operations. In some older plants, all the machinery would have to be replaced and the buildings themselves rebuilt, he said. "I would be sure you would see some doors close. In today's market conditions, they couldn't afford to do it."

For such companies, the review may ultimately mean an easing of regulations and a lower price tag for compliance.

The union, however, sees the matter differently. Mr. Hoyman, the textile division head, said the review is potentially a step backward.

"I think it's a very discouraging prospect for a textile worker who has waited a very long time for the existing standard to be put into place," he said. ■

Doug McInnis is a business reporter for The News and Observer in Raleigh, N.C.

The carding process in this mill is mostly enclosed.

MILLS BENEFIT **WHEN THE DUST SETTLES**

The Textile Workers Union says that the medicine is good for the industry. In short, the union contends that cotton dust standards are forcing textile mills to invest in productive new equipment.

The industry agrees — to a point.

"Of course productivity has been improved," said Haven H. Newton, vice president for industrial relations at Fieldcrest Mills Inc., "but it's been a very expensive improvement."

While there has been an increase, "It's not been in proportion to the investment of funds," he said. Fieldcrest has spent $26.5 million from 1972 through 1981 on equipment to reduce cotton dust.

The problem, he maintained, is that productivity picks up in areas such as opening bales of cotton. Machines now relieve people of that dusty chore. But Mr. Haven said there were not many workers in such jobs.

In areas where there are many workers, money has gone into ventilation improvements, which yield no productivity increases, he said. Simply put, he said, cotton dust-related investments are not competitive with other productivity-related investments such as new high-speed looms.

Similar comments come from J. P. Stevens & Company, of New York, which spent $52 million from 1972 through 1981. Stevens officials now estimate that 94 percent of its employees work in areas that meet 1984 cotton dust standards.

Dust collection and ventilation equipment account for more than half the cleanup cost, the company estimates. And J. R. Franklin, a company spokesman, added, "The foreign producers don't have an OSHA," and thus do not have to bear cotton dust-related costs.

Sometimes, there are gains. Spring Mills Industries enclosed most of the operations in a carding room at its mill in Lancaster, S.C., (left) where polyester and cotton fibers are converted to yarn to be woven into fabric. While removing dust from the work area, the equipment also greatly speeded the manufacturing process, increasing yarn output.

Certainly, the issue of cost benefits is not clear-cut. Because the air is cleaner, employees feel better and work more efficiently, said Marshall Beck, Stevens' direct of public affairs.

Eric Frumin, the textile union's safety and health director, concurred. "The fact that they have less health problems," he said, "increases their productivity."

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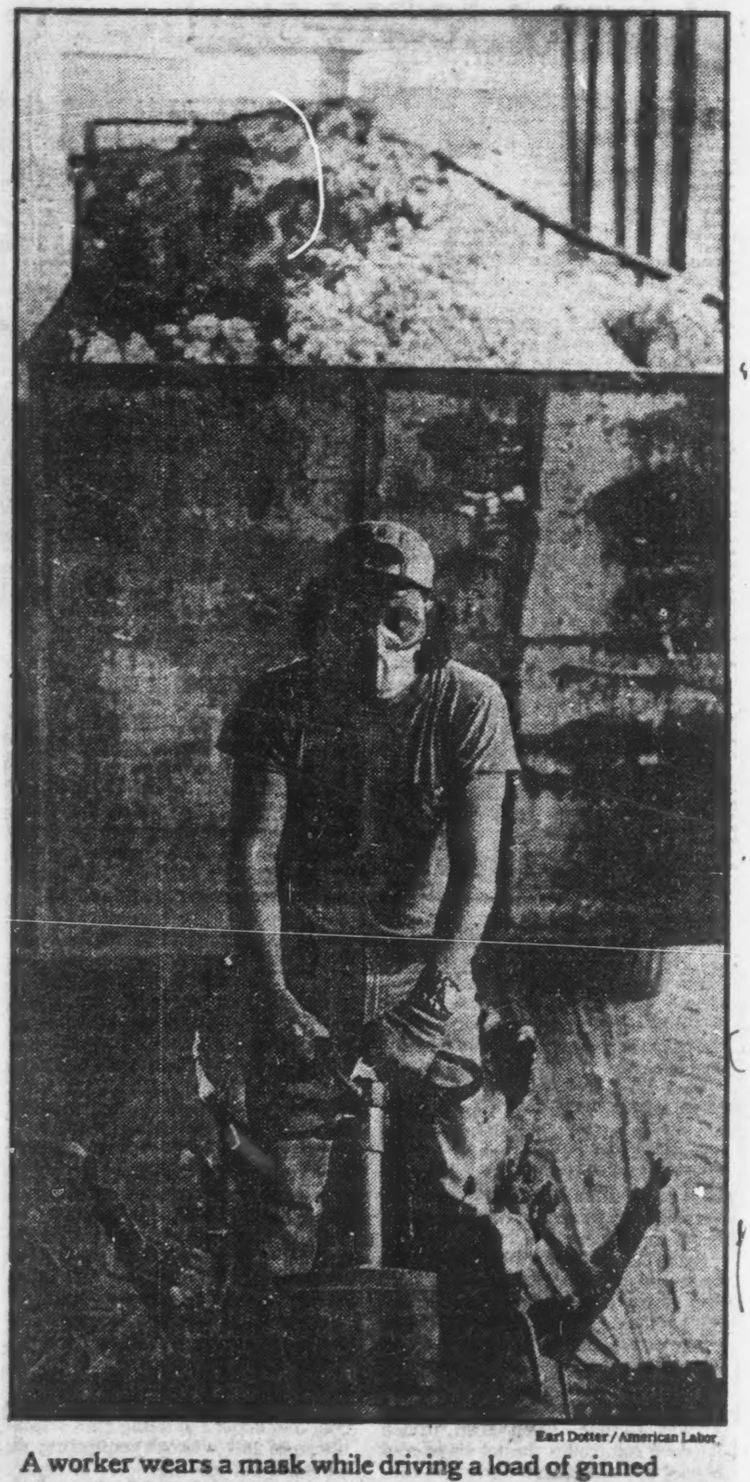

Earl Dotter / American Labor.

A worker wears a mask while driving a load of ginned cotton in Bolivar County, Miss.

Appendix #2

U.S. DEPARTMENT OF LABOR
Office of the Solicitor
WASHINGTON, D.C. 20210

DRAFT

MEMORANDUM FOR: MARK COWAN
Deputy Assistant Secretary

JOHN MARTONIK
Acting Director of Health Standards

FRANK WHITE
Associate Solicitor for
Occupational Safety and Health

FROM: COTTON DUST TEAM

SUBJECT: Team Recommendations for Future
Actions on Cotton Dust

BACKGROUND AND SUMMARY

The cotton dust team has reviewed the comments submitted on the March ANPR. It has made a 4 day trip to visit facilities, and met with industry executives, state representatives and regional OSHA staff. Meetings have also taken place with company medical directors. Union representatives have been reluctant to meet prior to the availability of specific proposals. A number of issues and option papers have been submitted and a preliminary draft of an amended cotton dust standard has been prepared. It now appears most efficient to submit a unified recommendation to facilitate review. Alternatives are discussed at the end.

It is suggested that a single ANPR be issued covering all relevant issues. Comments with a relatively short due date would be requested on the major technical issues: vertical elutriators, washed cotton, medical removal protection, action levels and percentage exclusions. Also minor adjustments which have been recommended would be covered. Comments with a longer due date would be requested on the scope of the standard and feasibility issues for smaller companies. This will permit more time for NIOSH to complete its studies on the significance of the risk in non-textile segments, an important element in determining whether they should be covered. Also it is believed necessary to have a contractor study the feasibility of the standard for smaller companies to determine if tiering, that is alternative provisions for smaller companies, is appropriate. A draft of such an ANPR could be drafted by the team by _______ with the assistance of   .

TEAM RECOMMENDATIONS

Single ANPR

A single ANPR with a shorter comment period for vertical elutriators, washed cotton, medical removal protection, action level, and minor changes, and a longer comment period for scope (whether there is significant risk justifying coverage of non-textile sectors) and tiering (alternate provisions for smaller companies to solve possible feasibility problems) is believed appropriate. Additional technical comments on the washed cotton and vertical elutriator issues would be of assistance in developing a better proposal. A longer period of comment would be useful for scope so that the public could comment on NIOSH health data in the non-textile sector now promised for December 15, 1981. (NIOSH has delayed the promised date several times however.) A contractor study would be useful to generate data for the tiering issue and more time would be needed for such a study.

It would be possible to issue a proposal on the minor amendments to the standard or to issue two separate ANPR's. However the team believes it would be administratively more efficient to issue a single document and that it would be advantageous to combine all the various issues so the pulbic would better understand the approach. The ANPR could also refer to the comments filed in the March ANPR to bring that phase to a conclusion.

Short Term Issues

Vertical Elutriators

All points of view agree that a more efficient method of monitoring is needed. Several new devices have been developed. However it would be useful for the team to have more information before issuing a proposal and the ANPR might develop this information.

Washed Cotton

Comments to the March notice and information developed on the teams' trip indicated that a better definition for the washed cotton exclusion would improve the standard. However systematic and focus comment by the public would be of assistance in developing a better definition.

Action Levels and Percentage Exclusions

The current standard has no exclusions for employers who have very low levels of cotton dust in their workplace, well below the exposure limit, either because of extensive controls or because of low levels of cotton in the materials processed.

(Additional engineering controls would not be required if exposures were below the exposure limit but the other provisions of the standard would be required.) Action levels can be beneficial to employees for non-threshold toxins by the achievement of levels lower than the limit and beneficial to employers by eliminating or reducing the expense of monitoring, recordkeeping, and other requirements of the standard when exposure are low. Employers strongly recommended the incorporation of such a concept in their comments to the March ANPR and unions have supported the concept in the past. These concepts could substantially improve the cost effectiveness of the regulation.

These concepts may also result in a broadly accepted solution to the problem of those sectors where there is some evidence of risk at medium levels but most employers have low levels. Rather than a complete exclusion from coverage, such employers could be excluded from most provisions if their monitoring indicates low exposure levels. These issues can be addressed effectively in an ANPR.

Medical Provisions

There have been criticisms of the medical provisions in the standard and meetings have taken place between OSHA representatives including OSHA's medical staff and company medical directors. As a result, the OSHA medical staff has drafted an amended provision which it is believed will meet industry concerns and improve employee health. These changes can be usefully, addressed in an ANPR, though it would be possible to issue them as a proposal in the near future.

Minor Modifications to Standard

There are a number of provisions which have created misunderstandings because of the draftsmanship or which with minor changes would meet specific complaints. For example the time given to notify employees appears to be too brief. It is believed better to cover these issues in the ANPR to have a unified approach and reduce possible confusion. But they could be handled through interpretations or by issuing a proposal in the near future. Language has already been drafted by the team.

Medical Removal Protection

The ANPR provisions of the standard were vacated by the Supreme Court and remanded for further consideration. Comments on the advisability of including such a provision would be useful.

Longer Term Issues

Scope (Coverage of Non-Textile Segments)

The Supreme Court decision applied to the textile segment, yarn making and weaving and slashing. At OSHA's request, the standard for classing and warehousing was vacated and remanded to the agency for further consideration. The standards for cotton seed oil processors and ginners were vacated by courts of appeals and remanded to OSHA for further consideration. OSHA has stayed the standard for knitting and hosiery. Those sectors never sued and can no longer sue the agency under the general review section of the Act, 6(f). The ~~Fifth~~ DC Circuit has stayed the standard for waste processing, garnetting and bedding pending the agency's decision on whether to brief the issue or request a remand for reconsideration. (As to the latter, team members are preparing a memo analyzing health effects in these segments to assist in the decision.) Industry has also requested in comments specific exclusions for some sectors which the standard may effect in a limited way.

Resolution of the status of the non-textile segments and knitting and slashing would be useful to complete action on cotton dust and resolve the matter for the public. Necessary to this resolution is a review of health data on the non-textile and knitting and hosiery sectors.

NIOSH has been carrying out research on the non-textile sectors. They have promised the results by December 15, 1981, but have not met several earlier deadlines. Similarly, the knitting industry has promised results of a study by the end of the year, but earlier promised data by August. It is believed that these issues should be mentioned in the ANPR to put pressure on completing the studies, but that the deadline for comments be sufficiently long so the public can comment on the research if it is available by the promised dates.

The promised NIOSH and knitting data would put OSHA in the best position to determine whether there is no evidence of risk and exclusion is appropriate, whether there is sufficient evidence of risk at medium levels to have limited coverage or coverage subject to an action level, or whether full coverage is justified by the health data. Therefore it is believed appropriate to await this data prior to making final decisions.

Tiering (Alternate Provisions for Small Businesses)

It has been suggested that smaller companies will have difficulty raising capital to meet the requirements of the standard in the textile industry and that alternate provisions, such as permitting a longer compliance period or greater use of respirators, may be appropriate. (It has also been suggested that since the new textile equipment that meets the exposure limits is more productive and produces better yarn and cloth, competive pressures may be more significant than OSHA regulations). The Regulatory Flexibility Act encourages consideration of the problems of smaller businesses.

However little data is available to OSHA and it has been the agency's experience that small business groups do not supply the agency with concrete information in response to Federal Register notices. Therefore the team recommends that a contractor be hired to study the impact of the standard on smaller businesses and provide that data upon which the agency could base a decision on the appropriateness of alternatives. A lengthy comment period for these issues in the advance notice would give a contractor time to complete its study.

Health and Feasibility Factors in the Textile Sector

The Supreme Court essentially upheld OSHA's determination of the feasibility of the 200 ug/m3 level in the textile industry and the significance of the risk justifying that level. No strong new data has been submitted to OSHA pursuant to the March advance notice on these issues. Industry presented some health data indicating that smoking may play a substantial role. Researchers at Yale presented more elaborate data indicating that cotton dust exposure remains the most significant factor. Together the data would not appear sufficient to clearly justify a major new evaluation in the light of the Court's decision.

Industry responses to the March notice stated that the 200 ug/m3 level was not technically nor economically feasible and that wide use of respirators would be more cost effective. However in informal meetings with the team, industry officials for the larger companies stated that they had reached 85 - 90% compliance with engineering controls. They did not press respirators as a control strategy apparently because it increases their turnover and the new more efficient machinery they are investing in achieves the levels of the standard. The financial press has reported (articles in the Economist and Wall Street Journal) that the new textile machinery which keeps exposure low is far more productive and produces better quality cloth.

In the light of these circumstances, the team requests advice on how to handle these issues in an ANPR. If the question of feasibility for the textile sectors is reopened, the team requests that a contractor be hired to review current practices, capabilities of the new machinery, and feasibility in this context. Data in the cotton dust record is based on add-on controls to early 70's technology and there have been substantial changes in the interim.

Contractors's Studies

As discussed, it is recommended that a contractor be hired to review the feasibility of compliance for smaller companies. This will assist in determining whether alternative provisions are appropriate. If feasibility for the textile sector is to be reopened, a more extensive study by the contractor of the capability of current technology, its costs and its addition to productivity will be necessary. A retrospective study of the impact of the standard would in any event be extremely valuable, since the evidence in the record which OSHA and industry relied on appears substantially outdated.

Actions After the ANPR

After the comments are received to the short term comments, it can be decided whether it is appropriate to publish a proposal on those issues. Alternately, the agency can decide to issue a single proposal after comments have been received to the long term issues and the contractor's study is completed. It is not necessary to decide this question now.

ALTERNATIVES

A proposal could be issued on the technical amendment issues and an ANPR on the others. Also a proposal could be issued on all the technical issues rather than an advance notice. However there will not be sufficient information available to the team to be sure that our proposal is the best one possible. An advance notice may be issued on the short term issues and action may be deferred on the long term issues until the NIOSH and knitting health studies are supplied. A proposal on the long term issues appears premature until the health studies and a contractor feasibility study is available. Other combinations are possible. For the reasons discussed above, the team believes its recommended approach will be administratively sound and permit the agency to act based on more complete data.

U.S. Department of Labor

Assistant Secretary for
Occupational Safety and Health
Washington, D.C. 20210

MEMORANDUM FOR: MALCOLM R. LOVELL, JR.
Undersecretary of Labor

FROM: MARK D. COWAN
Deputy Assistant Secretary

SUBJECT: Options Memorandum Concerning Regulatory Action by OSHA on Cotton Dust

PRIORITY

Important

SUMMARY

In 1978, OSHA promulgated a new standard for occupational exposure to cotton dust which set separate permissible exposure limits for (1) yarn manufacturing, (2) weaving and slashing operations, and (3) all other affected industries (primarily non-textile). In addition, the standard contains requirements for engineering and work practice controls, respirators, medical surveillance, and training. This standard replaced an earlier standard adopted in 1971.

The 1978 standard as it applied to the primary textile industry was upheld in a recent decision by the Supreme Court. However, there is some question about the significance of health risk in non-textile industries, where the standard is currently stayed by either judicial or administrative action. In addition, it appears that some provisions of the standard may be unclear, ineffective or unduly burdensome.

In early 1981, OSHA announced its intention to reevaluate and reconsider the new standard. As an initial step in the regulatory process, OSHA has developed an Advance Notice of Proposed Rulemaking to request comments on the issues cited above.

BACKGROUND

On June 19, 1978, OSHA issued a final occupational health standard regulating employee exposure to cotton dust (29 CFR 1910.1043; 43 FR 27350). This new standard was intended to

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supersede the previous OSHA standard that had been adopted, pursuant to section 6(a) of the Occupational Safety and Health Act (OSH Act), from a prior federal standard under the Walsh-Healey Act. OSHA's justification for developing a more stringent and comprehensive regulation was the substantial body of scientific and medical evidence showing a severe risk of debilitating respiratory disease, particularly among cotton textile workers.

The 1978 standard includes three separate permissible exposure limits (PEL) for airborne concentrations of cotton dust: 200 micrograms per cubic meter (200 ug/m^3) for yarn manufacturing; 750 ug/m^3 for weaving and slashing; and 500 ug/m^3 for all other regulated industries. The standard specifies that these limits must be achieved through the use of engineering controls. In addition, the standard requires supplementary use of respirators, implementation of specified work practices, a medical surveillance program, and a program for employee education and training. Based on information contained in the rulemaking record, OSHA found that these elements of the Cotton Dust Standard were both technologically and economically feasible.

Following its promulgation in 1978, the standard was immediately challenged in the courts by affected employees and various groups of affected employers. Briefly, the following outlines the history and status of litigation on the 1978 Cotton Dust Standard.

On pre-enforcement review, the District of Columbia Court of Appeals upheld the standard as it applied to the textile industry, AFL-CIO et al. v. Marshall et al., 617 F. 2d 636 (1979). The textile industry petitioned for review in the Supreme Court on the basis that the standard was invalid because of the Agency's failure to justify it on a cost-benefit basis. Futhermore, industry argued that OSHA had not adequately demonstrated economic feasibility. The Supreme Court, however, upheld the decision issued by the Court of Appeals and concluded that the OSH Act requires that exposure standards be reduced to levels limited by the significance of the risk and by feasibility considerations. The Court stated that the permissible exposure limits are not to be set based on cost-benefit analysis American Textile Manufacturers Institute v. Donovan 101 S. Ct. 2478 (1981). The Court held that OSHA had demonstrated feasibility but vacated and remanded the provision on wage retention following medical removal on the basis that the Agency had not adequately explained the need for the provision.

The D.C. Court of Appeals vacated the standard as it applies to the cottonseed oil industry because OSHA failed to demonstrate economic feasibility, AFL-CIO v. Marshall, 617 F. 2d636 (1979). The same court also stayed the standard as it applies to the waste processing, cotton batting, bedding and upholstery industries pending judicial review.

OSHA administratively stayed the new standard for the warehousing and classing industries (45 FR 50328, July 29, 1980) to review the significance of the health risk in those segments in response to the Supreme Court's decision, on the benzene standard Industrial Union Department, AFL-CIO v. American Petroleum Institute, 448 U.S. 607 (1980). Also, OSHA administratively stayed the standard for the knitting and hosiery industries until January 31, 1982, to review health data and to await the results of a review of medical surveillance data being performed by the knitting industry.

The Fifth Circuit Court of Appeals vacated a separate standard issued for the cotton ginning industry (43 FR 27418, June 23, 1978, 29 CFR 1910.1044) on the basis that the record did not demonstrate that a significant risk of adverse health effects existed.

On March 31, 1981, OSHA published a Federal Register notice at 46 FR 19502 requesting comments, in a limited form, on some general issues and on the utility of cost-benefit analysis in setting exposure limits. The Supreme Court decision, however, has superseded many of the comments submitted on the cost-benefit issue and has made it inappropriate to apply a cost-benefit approach to setting exposure limits for cotton dust.

In the case of the primary cotton textile industry, the Supreme Court upheld the Agency's determination that employees were subject to a significant risk of adverse health effects due to exposure to cotton dust. Since that decision, OSHA has received no substantial evidence to indicate that its determination was incorrect. If, however, such evidence is presented to the Agency then it would be appropriate to reconsider the PEL for the textile industry. In the non-textile industries, the situation is less certain and it would be appropriate for the public to have an opportunity to comment and for the Agency to reexamine the evidence of risk.

In addition, a number of other issues have arisen since the standard was promulgated in 1978. They are: (1) the appropriateness of an "action-level," that is, an exposure level below the permissible exposure limit at which some or all provisions of the standard no longer apply; (2) the inappropriateness or ambiguity of some of the definitions in the standard, primarily the definition of "cotton dust" and "washed cotton;" (3) the lack of consideration of the special problems of small businesses; (4) the technical problems with the vertical elutriator sampling device and the difficulty in gaining approval for other devices that measure cotton dust; (5) the appropriateness of some of the provisions of the medical surveillance requirements; (6) reconsideration of the requirement for wage retention after transfer for workers who are unable to wear respirators; and (7) consideration of provisions of the standard for cost effectiveness.

INTERESTED PARTIES

Labor Unions: Amalgamated Clothing and Textile Workers Union (ACTWU) and Industrial Union Department of the AFL-CIO.

Trade Associations: American Textile Manufacturers Institute, National Cotton Council, National Knitwear Manufacturers Association, National Association of Hosiery Manufacturers, Southern Furniture Manufacturers, National Association of Furniture Manufacturers, Northern Textile Association, National Association of Bedding Manufacturers, National Cottonseed Products Association, Cotton Warehouse Association, National Cotton Batting Institute, and the Textile Fibers and By-Products Association.

Public Interest Groups: Brown Lung Association and Public Citizen Health Research Group.

Governmental Agencies: Department of Agriculture and NIOSH.

RECOMMENDED COURSE OF ACTION

The Agency proposes to publish an Advance Notice of Proposed Rulemaking and to initiate rulemaking under Section 6(b) of the OSH Act. This approach has the advantage of addressing all of the issues in a focused manner, economizing on the use of Agency resources, and contributing to the development of a unified policy. It also allows OSHA to raise many issues for comment without committing the Agency to follow any single path. After receiving comments, OSHA should be able to propose realistic modifications to the standard.

OTHER OPTIONS CONSIDERED

(1) OSHA could handle each of the issues on a case-by-case basis. Under this option, OSHA would respond to problems by issuing individual interpretations and field directives or using other informal (non-regulatory) methods where possible. Stays and legal matters would be handled individually. The advantage of this approach would be that some matters might be handled more quickly and would not be tied to other items that might require a longer time to resolve. The disadvantage of this method is that only a limited number of matters could be resolved informally. Many issues, such as the insertion of an action level, would require formal rulemaking. In addition, dealing with the stays on a case-by-case basis would result in fragmented and potentially overlapping efforts.

(2) OSHA could proceed directly to publication of a proposal. This option would limit the information to be reviewed and therefore might shorten the time required to publish a proposed standard. The disadvantage of this approach, however, is that OSHA would have to expend additional time and resources to assemble pertinent data and information which might be submitted in response to the ANPR. In addition, if new issues arose after the standard was proposed there would be a delay in the promulgation of the final standard.

TIMETABLE

OSHA anticipates publication of the ANPR in the second quarter of FY 82.

CONTACT

Mark D. Cowan
Deputy Assistant Secretary
523-6104

Appendix #3

Cotton Dust Standard Review Task Force

TRIP REPORT: JUNE 15-19,1981

Purposes of the Trip

1. Tour operating cotton textile mills to familiarize task force members with manufacturing operations in the industry.

2. Meet informally with industry representatives, Federal and State enforcement personnel and with 7(c)(1) consultants to obtain their impressions and experience relating to the Cotton Dust standard.

Participants

Long Loo (June 15-19)
Susan Harwood (June 15-18, including roundtable meeting in Spartansburg)
Patricia Sparks (June 15-16)
Larry Braslow (June 15 - 16)
Ray Donnelly (June 15-19)
David Smith (June 17-19)

Background

The trip to five mills in North Carolina and South Carolina was arranged at OSHA's request through the American Textile Manufacturers' Institute (ATMI). Meetings with Federal and State personnel were arranged through the Atlanta Regional Office.

When arrangements were discussed with ATMI prior to the trip, the team was told that all facilities scheduled for visits were non-union operations and that we would be given opportunity to speak with workers in the plant. The team did not meet or speak with production workers in any of the plants, nor was there a convenient way to do so. Further, one mill, the Cone Mills White Oak plant in Greensboro, N.C., had been organized by ACTWU since the 1950's. Given the purposes of the visits to these mills, contact with the workers was not essential to the team, but it should be noted that the need to arrange for worker input to the revision process remains unaddressed by this visit.

Summary of Contacts

Cone Mills White Oak Plant, Greensboro, North Carolina

This is an immense denim producing operation, covering more than 1.5 million square feet of floor space. Heavy investments have paid off in productivity increases as well as in reduced cotton dust. The consensus of the group is that the White Oak Plant was the cleanest, most modern operation seen on the trip. Unique to this plant: 1) Rapier Looms; 2) Open-end spinning; 3) ACTWU organized.

Burlington Industries Mooresville Plant, Mooresville, N.C.

The Mooresville plant is almost as large as the Cone Mills operation and is also recently modernized, although not to the same degree. Denim and Corduroy are produced, as well as stretch denims. Unique to this plant: 1) Use of PCAM monitor instead of vertical elutriator; 2) stretch yarn and stretch denim production; 3) Corduroy manufacture; 4) Not-continuous operation: yarn is transported to another location to be dyed; 5)Open-end spinning to replace all ring spinning by 1983.

TICARO, Gastonia, North Carolina

This is a multi-plant yarn production facility, producing for knitters of men's high quality shirts.Conversation with management included frank discussion of medical problems. TICARO does not hire workers with breathing problems anymore Operators claim that fewer than 130 out of 4500 workers are exposed to more than 200 micrograms of dust, and these use respirators as required. Unique to this plant: 1) cotton combing to produce stronger, higher-quality yarns; 2) observed a cotton classing operation; 3) witnessed a "blow down" operation.

Hamrick Mills, Gaffney, South Carolina

This is a smaller and older, family-owned operation, producing cotton fabric (and synthetic/cotton blends) for women's dresses. All machinery in the opening and carding processes has been replaced, sooner than would be expected without the cotton dust problem. Equipment in the weave room appeared to be all standard Draper looms.

Springs Mills, White Plant, Fort Mills, South Carolina

This was the oldest operation visited, both in terms of building age and types of machinery in use. Unique to this operation: 1) Manual opening of bales; 2) Humididuct system; 3) 1165 shuttle looms in one weave room, with an acknowledged decibel level of at least 98.

Meeting with ATMI Representatives, Springs Mill Conference Room

ATMI representatives discussed their views of and problems with the Cotton Dust standard, including the following major topics:

1) Industry is making advances in controlling dust as a result of modernization to increase productivity. 2) The definition of cotton dust is not sufficiently precise, leading to confusion as to how the standard can and should be met. 3) Use of vertical elutriators compounds the definitional problems that arise in measuring cotton dust. 4) Energy costs for air conditioning--cooling and humidification--are rising, with no accompanying increase in productivity to compensate.(N.B. some operators noted need for cooling of air to run synthetics in their mills, with increased employee comfort as an important by-product. 5) The contribution of smoking to byssinosis must be explored. Industry representatives question the dose-response relationships established by Merchant, et al., below 500 micrograms per cubic meter, and will present health data to show contribution of smoking to development of disability. The strong conviction was expressed that permanent damage is caused only by smoking.

6) Workers' compensation problems are growing--more and more claims are leading industry to be cautious about whom they hire, so as to avoid liability for disabilities that might be unrelated to their own operations. One mill hires only non-smokers for its all-cotton operation, but this is only a small portion of its total production.

Regional and Area Office Staff

Discussion centered around the following issues:

1. Equipment. The pump mechanism for the vertical elutriator presents electrical safety problems, at least technically, and until a suitable substitute is approved and provided to the field, OSHA would not be able to respond even to complaints. Also, if smaller, self-powered pumps are used in series as a substitute for the larger,AC operated type, some sort of tripod arrangement will have to be provided for the sampling apparatus. The general fragility and extreme bulkiness of this sampling equipment was thoroughly underscored.

2. Training. Decisions must be made as to how many IH's to train to enforce the cotton dust standard; training is needed in interpretation of the manual. Also, a strategy for enforcement using area samples rather than personal samples must be worked out and explained to field staff.

3. Definition of "Cotton Dust": OSHA staff noted essentially the same problems raised by industry, including the question of measurement of dusts in cotton/synthetic blend operations, mineral dusts, sizing, etc .

Discussion with Consultation Staff at Georgia Tech

Consultants raised essentially the same points as the Federal staff, emphasizing the difficulties involved with handling of the vertical elutriators,and raising the possibility of alternative types of measurement devices.

State Program Representatives

In addition to discussion of the problems raised by the use of the vertical elutriator, the following topics were discussed informally.

1. States are glad to be consulted informally and look forward to more input on the review of the standard. South Carolina submitted comments in writing, which are attached.

2. Exposures in cotton gins and warehousing operations should be considered as well as textile operations, inasmuch as these operations have significant exposures. Current PEL's may not be stringent enough in these areas.

3. For manufacturing processes with cotton-synthetic blends some consideration should be given to excluding processes with a low percentage of cotton or to other forms of relief which take into account the contribution of synthetic dust to the total cotton dust measured.

4. There was general agreement that current exposure limits were not unreasonable, that they can be obtained, but that enforcement methods create problems.

5. There is a need to continue research into identification of causative agents in byssinosis.

6. Some old plants may never be able to comply because of background levels of dust in their structures.

7. OSHA should consider an action level for monitoring, perhaps when levels reach 50% of PEL.

8. There is popular local support for the standard, and this is reflected in--and intensified by--workers' compensation claims for byssinosis.

SOUTH CAROLINA DEPARTMENT OF LABOR
DIVISION OF OCCUPATIONAL SAFETY AND HEALTH
Post Office Box 11329
Columbia, South Carolina 29211

COMMENTS ON 29 CFR 1910.1043 OCCUPATIONAL EXPOSURE TO COTTON DUST

The South Carolina Department of Labor, Division of Occupational Safety and Health, strongly supports all efforts reasonably designed to lessen the risk of byssinosis among workers in the textile industry. Over 50,000 South Carolinians are employed in the industry. Many of them risk daily exposure to the unknown causitive agent of byssinosis. Until this agent is identified, aggressive control of cotton dust is necessary.

The South Carolina Department of Labor recognizes that there are certain weaknesses in 29 CFR 1910.1043 but believes that they are best addressed by proposed modifications to the standard now in effect rather than by action further delaying its implementation. This is particularly true because the findings made by the Department of Labor in support of a standard based upon area sampling of respirable dust were heavily critical of the validity of personal sampling for airborne dust as a measure of cotton dust exposure. Questions of the validity of the "old standard" are not wholly answered by the recent decision of Sec. v. Deering-Milliken, ____ F.2d ____ (5th Cir. 1980).

The primary focus of the legal challenges to 29 CFR 1910.1043(a) have concerned the cost of a dust control strategy as opposed to increased reliance upon medical surveillance. These challenges were brought in 1978, shortly after promulgation of the standard itself. Since that time three years have passed and much of the necessary investment has already been made in dust control. The South Carolina Department of Labor hears regularly from reliable industry sources that plants in South Carolina have achieved or are near achieving compliance with 29 CFR 1910.1043 as written. Thus, a relaxation in the dust control aspects of the standard in 1981 will not produce significant industry savings to balance against increased health risks.

It is also important to recognize that reliance upon medical surveillance as a preventive device must lead directly to the termination of employment of persons who show decreased pulmonary function. The loss of skilled workers to the textile industry will be costly. The difficulties encountered by older workers with no other experience who are forced to leave the textile industry before retirement must also be considered as a cost of reliance upon medical surveillance.

Thus, in 1981, the South Carolina Department of Labor believes that the most productive approach to 29 CFR 1910.1043 is a fine tuning approach to clarify and simplify the responsibilities of employers, employees, and the Occupational Safety and Health Administration to the extent possible. To this end, we offer the following suggestions:

1. Define the term "area" or "work area" in order to clarify where signs should be posted according to 29 CFR 1910.1043(j), and which employees should wear respirators during "blow down" according to 1910.1043(g)(1).

2. The National Institute of Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA) should begin detailed analysis of available data to establish a level of significant impact to be used in applying 29 CFR 1910.1043(e)(2). When engineering controls will not achieve full compliance, an employer should continue to institute all controls which will have a significant impact upon his workplace. Several potential measures are obvious. For instance, a 50% reduction in dust may be significant, a 25ug/m^3 reduction may be significant, or a one hour reduction in the time a respirator must be worn may be significant. Whatever the findings may be, industry, labor and the OSH Administration deserve some guidance before making large investments in technology which may be only marginally useful.

3. The OSH Administration should re-evaluate the need for periodic monitoring under 29 CFR 1910.1043(d)(3). Once an employer has established by several successive monitoring measurements that his engineering controls are adequate to achieve compliance, it should be possible to rely upon 29 CFR 1910.1043 (e)(4) and periodic tests of those engineering controls themselves to assure compliance over an interval longer than six months. While periodic monitoring may be necessary to prevent deterioration of work practices, the six months interval is not directly relevant and is expensive both in direct costs and in interference with production.

4. The OSH Administration should examine the record

retention requirements of 29 CFR 1910.1043(k) in light of subsequent promulgation of 29 CFR 1910.20 and eliminate the conflicting requirements.

5. Encourage the development of cotton dust measuring systems equivalent to the vertical elutriator. At least one system currently on the market has been designated by OSHA and the South Carolina Department of Labor as potentially equivalent if used according to protocol. [The CAM developed by ppm, Inc. of Knoxville, Tenn] Such systems may be able to alleviate problems associated with the vertical elutriator including bulk, the large numbers necessary for accurate measurement, and the dependency upon laboratory accuracy. [Note that the South Carolina Department of Labor does not believe that the vertical elutriator is inherently dangerous. Few areas in a cotton mill even approach characteristics of a Class III location. Care in ordering component motors should prevent any significant hazard of fire.]

6. The OSH Administration should examine 29 CFR 1910.1043(f)(2)(v) to insure that affected employees are aware of job openings in areas with exposure below the PEL. Time limits on affirmative duties to give notice would be appropriate.

AIRPORT 6/15/81

John Tritsch - ATMI
Diane Baulovsky - ATMI

CONE MILLS - Greensboro, N.C. 6/15/81

Marcus Bradsher - plant manager
Jim King - director of mill services
Dewey Trogden - Chairman of the Board
Charles Martin - Corporate Medical Director
Frank Fary - Corporate public relations
Dave Moff - personnel
Norman Pinkleton - office manager
Ralph Tharp - supervisor of dying and finishing
James Payne - supervisor of yarn manufacturing

Sparks, Donnelly, Loo
Braslow, Harwood

BURLINGTON - Mooresville, N.C. 6/15/81

John Duncan - plant manager
Ed Murray - Group manager for denim
Bob Craig - technologist

Sparks, Donnelly, Loo
Braslow, Harwood

TiCaro - Gastonia, N.C. 6/16/81

Jim Martin - President and Chairman of the Board
Jim Fry - Special Assistant to Mr. Martin
Art Warren - Vice President of the Arlington Division
Albert Myers - President of Primary Yarn Manufacturing
Jimmy Rawlings - Assistant Vice President in charge of cotton
Mike Smith - Safety and Health Director

Sparks, Donnelly,
Loo, Harwood

Hamrick - Gaffney, S.C. 6/16/81

John Hamrick
John Reeves - Vice President
Don O'Shields - personnel
Wylie Hamrick - President
Mrs. Baker - nurse
Lyman Hamrick - assistant plant manager
Harvey Campbell

Sparks, Donnely, Loo, Harwood

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Springs Mills Fort Mill , S.C. 6/16/81

Francis Bell - Vice President
Ed Underwood - Corporate Medical Director
Cog Gregory - Group Manager, Consumer Products Division
Jim Wells - Corporate Manager, Safety and Health
Jim Barrett - plant manager White plant
Steve Hudson - assistant plant manager

Donnelly, Sparks, Loo
Harwood

ATMI summary meeting Fort Mill, S.C. 6/16/81

Jack Vincent Dover Textiles AtMI director of SAfety and Health Committee
Harold Imbus - Burlington corp med dir
Francis Bell - Springs VP
Haven Newton - Fieldcrest personnel
Jim Griffin Hanes engineering
Charles Martin Cone corp med dir
Horace Ledford Dover Director Ind. Rels
Jim Wells Springs Corp director Safety & Health
Bob Robards JP Stevens corp med dir
Ed Underwood Springs corp med dir
Jim Bostick-Riegel govt relations

Donnelly, Sparks, Loo
Harwood

Textile Industrial Hygiene Roundtable Spartanburg, S.C. 6/17/81

Doug McKay - WestPoint Pepperell
Barbara Peat-Chicopee
Ellis Pardue - Hanes Group, Inc.
E.B. Katzenmeyer - B.F. Goodrich
Dennis Smoot — JP Stevens
Ann L. Walker — Hanes Group Inc.
Miller Jones - Burlington Ind.
Raymond Childress - M. Lowenstein Corp
Andrew Schauder - United Merchants and Mfg.
P.J. Wakelyn National Cotton Council
Preston Sasser—Cotton Inc.
Bob Jacobs-Cotton Inc
John Neefus - Burlington Inc

Paul Gundlach-Cannon Mills
Lee Ivester — Field crest
Chris Phillips

Bellles, Harwood

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The following, are significant comments by industry representatives, federal and state compliance personnel during our plant and Regional Office visits:

1. Mr. Murray of Burlington stated that the industry started the modernization of equipments about 10 years ago so it is competitive with foreign competitors. I feel that "dust control" is a "by-product" of the equipment modernization and not a prime objective of the industry.
2. All the plants we visited will have no significant problems in achieving total compliance by 1984 if they follow their normal modernization plan.
3. Correlation of area sampling (VE, CAM etc.) vs personal sampling.
4. Problems with the VE:
   accurately - what measured
   logistic - travel, set up
   power supply - hazardous location
5. Industry medical personnel question the validity and correlation of dose-response on Merchant's study for data below 500μg
6. Industry have strict requirements for preemployment physical. It appears to protect themself for possible future workman's compensation claims.
7. Stress smoking's strong effect on pulmonary function diseases.
8. VE measured dust level in synthetic may be higher than 100% cotton. No discrimination of dust collected.
9. Ionized water significantly change the level of dust concentration.
10. Regional personnel believes in order to conduct textile mill inspections for cotton dust in addition to normal health inspections they will need to double the present IH staff.
11. No Region IV cotton dust inspection since 1978 standard because final order.
12. State plan administrators believe employers will be able to meet the 1978 standard.
13. Definition of "Cotton Dust"?
14. Significant energy cost for the control equipment.
15. Believe other segments such as Graining and Cottonseed oil also should be considered in this standard.

Springs Mills, Inc.
White Plant
Fort Mill, South Carolina

General Information

3 shifts

Plant in operation since 1892. Employs approximately 600 people. Unit of Springs' Consumer Products Division. Plant processes raw cotton and man-made fibers into yarn, and weaves the yarn into fabric for bedsheets and other home furnishings.

New Equipment

Since 1979 Springs has spent $1,530,389 on modernization projects at White Plant which have resulted in sharply reduced dust levels and greater productivity particularly in yarn manufacturing areas.

Springs plans to spend $2.7 million to refrigerate the White Plant weave room in 1981-82. This project will enhance employee comfort. Project involves addition of filtration equipment, air washers, cooling towers, ductwork and air conditioning equipment. Current system relies on vented outside air and steam to produce humidity levels required for weaving yarn into fabric.

Cotton Dust Levels

	1977	1979	1-80	11-80	4-81
Areas	ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3
Open/Pick		660	225	160-269	201-225
Carding	640	320	137-224	207-299	209-237
Drawing	660	340	214-468	222-360	215-410
Roving	580	190	107-142	81-100	79-122
Spinning			82-105	63-73	55-76
Preparation			107-164	101-118	103-137
Weaving*			454-491	524-566	403-480*

*After the weave room project is completed dust levels there are expected to drop below 200 ug/m^3.

June 1981

- TOUR ITINERARY AND SCHEDULE -

June 15 - Monday

7:00 a.m.	Lv. Nat. Airport, Piedmont Flt. # 201
8:50 a.m.	Arrive Greensboro airport via Piedmont flight 201. Pick-up by Bush Limousine Service van.
10:00 a.m.	Arrive Cone Mills, 1201 Maple Street, Greensboro, NC.
10:45 a.m.	Tour of Cone Mills White Oak Plant starts.
1:00 p.m.	Board van for Mooresville, NC.
2:30 p.m.	Arrive Burlington Mooresville Plant facility.
3:30 p.m.	Tour of Burlington Mooresville Plant starts.
5:00 p.m.	Board van for Charlotte, NC.
6:00 p.m.	Arrive Radisson Plaza Hotel, Charlotte.
7:30 p.m.	Reception and Dinner at Radisson.

June 16 - Tuesday

8:00 a.m.	Board Bush Limousine Service van for Gastonia, NC.
9:00 a.m.	Arrive Ti-Caro, Inc. NC route 274, Gastonia.
9:15 a.m.	Tour of Ti-Caro Gastonia plant starts.
10:30 a.m.	Board van for Gaffney, SC.
11:30 a.m.	Arrive Hamrick Mills, 515 W. Buford St., Gaffney.
11:45 a.m.	Tour of Hamrick plant starts.
1:00 p.m.	Board van for Fort Mill, SC.
2:00 p.m.	Arrive Springs Mills Offices, Fort Mill.
2:15 p.m.	Tour of Springs Mills White plant starts.
3:15 p.m.	Return to Springs Fort Mill Office.
4:00 p.m.	Conference with ATMI representatives.
6:00 p.m.	Board van for Charlotte, NC.
6:45 p.m.	Arrive Radisson Plaza Hotel, Charlotte.
7:30 p.m.	Reception and dinner at Radisson.

June 17 - Wednesday

8:00 a.m.	Team meeting to discuss impressions of ATMI tour
9:00 a.m.	Depart for Charlotte Airport
10:25 a.m.	Lv. Charlotte, N.C., Eastern Flt. #265
11:20 a.m.	Arr. Atlanta,Ga. - Limo. to Regional Office
12:00 noon	Lunch
1:00 p.m.	Intro. to Reg. Off. staff
2:00 p.m.	Meeting with 7(c)(1) consultation staff (Ga.)
3:00 p.m.	Team meeting to review comments and plan for Thursday

TENTATIVE

June 18 - Thursday

9:00 a.m.	Meeting with Reg. Off. staff,(includes Area Off. personnel)
11:00 a.m.	Team discussion of comments
12:00 noon	Lunch
1:00 p.m.	Meeting with State Plan personnel
3:00 p.m.	Team discussion of comments

TENTATIVE

June 19 - Friday

8:00 a.m.	Meeting with Ga. Tech., College of Textile Eng. personnel
10:00 a.m.	Tour of Ga. Tech. mill facilities

END

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Appendix #4

BEFORE THE
UNITED STATES DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
WASHINGTON, D.C.

FIRST SET OF SUPPLEMENTAL COMMENTS OF THE AMERICAN TEXTILE MANUFACTURERS INSTITUTE, INC. ON DOCKET NO. H-052C OCCUPATIONAL EXPOSURE TO COTTON DUST: ADVANCE NOTICE OF PROPOSED RULEMAKING

Communications Regarding
These Supplemental Comments
Should Be Addressed To:

W. Ray Shockley
Executive Vice President
American Textile Manufacturers
Institute, Inc.
1101 Connecticut Avenue, N.W.
Suite 300
Washington, D.C. 20036
(202) 862-0555

and

Neil J. King
Wilmer, Cutler & Pickering
1666 K Street, N.W.
Washington, D.C. 20006
(202) 872-6061

April 23, 1982

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BEFORE THE
UNITED STATES DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
WASHINGTON, D.C.

Occupational Exposure to Cotton Dust Advance Notice of Proposed Rulemaking	)	Docket No. H-052C

FIRST SET OF SUPPLEMENTAL COMMENTS OF THE AMERICAN TEXTILE MANUFACTURERS INSTITUTE, INC.

Introduction

On March 26, 1982, the American Textile Manufacturers Institute, Inc. ("ATMI") filed Comments on the Advance Notice of Proposed Rulemaking ("ANPR") in the above-referenced matter. Because the period for submitting comments was quite abbreviated, ATMI was not able to submit information on various of the issues raised in the ANPR or to complete its submission of information on other issues. For that reason, we indicated that we would be filing supplemental comments in the weeks ahead.

The present document, ATMI's First Set of Supplemental Comments, contains a good deal of the additional information that ATMI has been collecting. We expect that information or reports relevant to one or two further matters will become available at various times within the course of the next two months. We will submit that material for the record as promptly as possible.

I. Health Effects Data

As indicated in ATMI's Comments of March 26, 1982, Dr. Harold R. Imbus has prepared a report analyzing the health status of a substantial number of cotton textile workers based upon data reported for the years 1980 and 1981, and, to a lesser extent, for 1979. His report, entitled "Medical Surveillance Data in the Cotton Textile Industry," is submitted as Appendix I to these Supplemental Comments.

Dr. Imbus' report examines voluminous data relating to acute and chronic health effects in textile workers exposed to cotton dust in the recent past. He finds that adverse respiratory effects among the workers studied are low overall -- substantially lower than some earlier studies had suggested and not significantly abnormal when compared to various populations not exposed to cotton dust. And these findings hold true for employees who work in areas where cotton dust exposures are between 200ugs/m^3 and 500ugs/m^3 as well as for employees who work in areas where cotton dust exposures are below 200ugs/m^3.

The significance of Dr. Imbus' findings is twofold. First, they suggest that requiring employers to reduce cotton dust exposure to levels of 200ugs/m^3 or less through the use of engineering controls is not reasonably necessary or appropriate to protect against a significant risk of material health impairment to cotton textile workers. Rather, a somewhat less stringent premissible exposure limit not in excess of 500ugs/m^3 -- combined with a program of medical surveillance and use of respirators and transfers for those employees who do react adversely to cotton dust at exposures below 500ugs/m^3 -- would appear adequate to protect cotton textile workers against significant health risks.

Second, regardless of what permissible exposure limit is required to be met through the use of engineering and work practice controls, the low level of adverse health effects reflected in Dr. Imbus' report provides further comfort and justification for making the various "nuts and bolts" adjustments to the Standard -- including the establishment of action levels and exclusions, the limited modifications in monitoring and medical surveillance requirements, etc. -- that ATMI suggested in its Comments of March 26, 1982. Since the existing health problems appear to be much less significant than OSHA believed at the time the Standard was adopted, a more sensible and realistic approach to the nuts and bolts aspects of the Standard clearly is in order.

II. Cotton Dust Exposure Levels and Employee Census in Various Textile Operations

As indicated in its Comments of March 26, 1982, ATMI circulated a Questionnaire to its member companies, seeking information on a number of points, including the current dust levels and employee populations in various textile operations. Responses to the Questionnaire were received from approximately fifty companies. The vast majority of these companies provided a breakdown, by operation, of their employees who are exposed to cotton dust and therefore covered by the Standard. The percentages of workers covered by the Standard who are employed in the various cotton textile operations at these companies are shown on attached Exhibit A. These companies employ approximately 72,500 workers who are covered by the Standard. We do not know what percentage these workers represent of total covered employees in the industry as a whole. Nor do we know whether the percentages, by operation, shown on Exhibit A are typical of the cotton textile industry as a whole. Consequently, the Questionnaire responses do not permit us to estimate with confidence the numbers of employees exposed in the various operations industry-wide.

The companies responding to the Questionnaire also provided information regarding the results of exposure monitoring in their various operations on the monitoring date closest to January 1, 1982. Attached Exhibit B compiles the Questionnaire responses for twelve separate operations from opening through weaving on the basis of exposure range categories. It shows the percentage of measurements reported by all responding companies that fall within each of the designated exposure ranges -- established at 100ug intervals in opening through warping and 250ug intervals in slashing and weaving.

Caution is required in interpreting Exhibit B, since one would expect that, on the whole, the companies that responded to the Questionnaire have made greater efforts to reduce exposure levels and have achieved lower overall exposures than the companies that did not respond to the Questionnaire. Accordingly, Exhibit B probably presents a more favorable picture of existing exposure levels than actually obtains in the industry as a whole. The extent of any resulting distortion must remain a matter of conjecture.

III. Multi-Shift Monitoring

The responses to ATMI's Questionnaire presented the results of multi-shift monitoring conducted by the various companies in twelve operations from opening through weaving. The extent of variability in measurements from one shift to another must be analyzed to determine whether the

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burdens and expense of multi-shift monitoring are justified in the various operations when the exposure level falls within specified ranges. Such a statistical analysis is presently being performed, and we hope to have the results of the analysis available for filing within the next few weeks.

IV. Economic Information

The ATMI Questionnaire requested information regarding capital expenditures that the various companies had made to comply with engineering and work practice control requirements of the Cotton Dust Standard through December 31, 1981. Comparable information was sought regarding the additional capital expenditures that the companies expect to make to comply with these requirements after December 31, 1981.

The responding companies reported that, as of December 31, 1981, they had made capital expenditures of approximately $310 million to comply with the engineering and work practice control requirements of the Standard.*/ The companies also indicated that they expect to incur approximately $150 million in additional capital expenditures to comply with the engineering and work practice control requirements of the Standard after December 31, 1981.*/

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*/ The vast bulk of these expenditures were incurred to meet the engineering control requirements in the operations of opening through warping, where the permissible exposure limit is 200ugs/m^3.

If the responding companies were typical of the industry generally, the foregoing data would indicate that the industry has already made approximately two-thirds of the total capital expenditures that will have to be made to comply with the engineering and work practice control requirements of the Standard. It is unlikely, however, that the responding companies are typical of the industry as a whole so far as capital expenditures for compliance are concerned. Rather, the responding companies are likely to be in the forefront of those that have already made substantial capital commitments for compliance with the Standard, while the companies that did not respond are likely to have the bulk of their capital expenditures still ahead of them. Consequently, for the industry as a whole, it seems fair to assume that considerably more than one-third of the required capital expenditures remain to be made in the future.

The ATMI Questionnaire also solicited information regarding annual recurring energy and maintenance costs that would be involved in complying with the engineering control requirements of the Standard. The responding companies indicated that they would incur approximately $20 million in annual energy costs and $6.0 million in annual maintenance costs to comply with the engineering control requirements each year.

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*/ The vast bulk of these expenditures would have to be made to comply with the engineering control requirements in the operations of opening through warping, where the permissible exposure limit is 200ugs/m^3.

Finally, the ANPR requested information on the industry's annual employment turnover rate during the past five years. Attached Exhibit C displays that information -- in terms of "Accessions" and "Separations" as a percentage of total employment for the years 1977 through 1981.

V. Technological Information

The companies responding to the ATMI Questionnaire indicated that air collection, handling and cleaning are the principal methods being used to reduce workplace dust levels. Automatic opening and picking machinery, chute feed cards, and open-end spinning are the principal examples of new production machinery that the responding companies have been using to help reduce cotton dust exposures, either by reducing the number of employees exposed in particular operations or by lowering dust levels in the workroom.

By and large, the responding companies expressed the expectation that, from a strictly technological standpoint, the permissible exposure limits established under the Standard could be achieved in most operations most of the time, if money is deemed to be no object.[*/] In some cases, companies anticipate that they will not be able to reach the exposure limits simply through retrofitting existing equipment; rather, engineering an entirely new work area from the ground up will be required. And, even where companies do expect to be able to achieve the permissible exposure limits, there is some uncertainty as to whether the levels can be maintained on a consistent basis. Moreover, in a number of cases, the economics of the situation make it impossible to justify the expenditures that would be required to achieve the permissible exposure limit. For that reason, several marginal facilities already have been closed, and one can expect that additional closings will occur in the future.

The operations in which achieving the permissible exposure limit appears to be most troublesome are those where dust must be collected over wide areas. While the exposure limit in such cases often could be met if the operation were being engineered from the ground up, the ability to achieve the limit through retrofitting an existing work area is much more doubtful. The operations in which

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[*/] It seems fair to assume that the companies responding to the Questionnaire are the ones that generally have been most successful in controlling cotton dust exposures in the past. Accordingly, one would expect that these companies would have less difficulty in achieving the permissible exposure limits than the companies that did not respond to the Questionnaire. Thus, what may be technologically feasible for many of the responding companies will not necessarily be feasible for the industry generally.

the most substantial difficulties are anticipated appear to be spinning (particularly ring spinning) and winding -- although a number of companies identified various other operations in which their ability to achieve the permissible exposure limit was questionable. As one would expect, the likelihood of being able to come into compliance through the use of engineering controls varies from company to company, depending upon the nature of the physical set up, the fiber being processed, and other factors peculiar to the facility in question.

Respectfully submitted,

THE AMERICAN TEXTILE MANUFACTURERS
INSTITUTE, INC.

By: W. Ray Shockley
Executive Vice President
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Institute, Inc.
1101 Connecticut Avenue, N.W.
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and

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Washington, D.C. 20006
(202) 872-6061

April 23, 1982

Exhibit A

Percentage of Employees Working in Designated Operations at Companies Responding to ATMI Questionnaire

Operation	Percentage
Opening	1.8
Picking	0.5
Carding	4.2
Drawing	3.4
Roving	3.8
Spinning	23.3
Twisting	1.5
Winding	8.0
Spooling	6.1
Warping	3.3
Slashing	3.3
Weaving	39.9
Other	0.9
Total	100.0

Exhibit B

Percentage of Exposure Measurements Closest to January 1, 1982 Falling Within Designated Ranges

Operation	Under 0.2mg/m^3	0.2mg/m^3 to .299mg/m^3	0.3mg/m^3 to .399mg/m^3	0.4mg/m^3 to .499mg/m^3	0.5mg/m^3 And Above
Opening	48.7%	18.3%	9.7%	5.5%	17.8%
Picking	51.1%	18.0%	11.6%	5.6%	13.7%
Carding	58.1%	21.3%	8.1%	4.3%	8.1%
Drawing	63.3%	20.2%	7.0%	2.7%	6.8%
Roving	76.9%	13.1%	5.4%	2.5%	2.1%
Spinning	78.3%	12.4%	5.6%	1.8%	1.9%
Twisting	77.9%	10.0%	3.6%	2.1%	6.4%
Winding	65.9%	18.4%	6.4%	4.8%	4.6%
Spooling	72.8%	15.9%	4.8%	1.9%	4.6%
Warping	69.2%	14.7%	8.3%	4.1%	3.7%

	Under 0.5mg/m^3	0.5mg/m^3 to .75mg/m^3	0.75mg/m^3 to 1.0mg/m^3	Above 1.0mg/m^3
Slashing	93.8%	5.7%	0.4%	----
Weaving	69.9%	22.5%	4.6%	3.1%

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Exhibit C

ANNUAL EMPLOYMENT TURNOVER RATE FOR THE COTTON TEXTILE INDUSTRY
(1977 - 1981)

Year	Accessions	Separations
1981	3.2%	3.7%
1980	3.6%	4.1%
1979	4.6%	4.8%
1978	4.6%	4.7%
1977	4.5%	4.6%

Appendix #5

U.S. Department of Labor

Occupational Safety and Health Administration
Washington, D.C. 20210

Reply to the Attention of:

0 7 OCT 1981

MEMORANDUM FOR: Mark D. Cowan
Deputy Assistant Secretary

THRU: John Martonik, Deputy Director
Directorate of Health Standards

FROM: Cotton Dust Project Team

SUBJECT: PROPOSAL TO PUBLISH AN ADVANCE NOTICE OF PROPOSED RULEMAKING,(ANPR), ON THE COTTON DUST STANDARD

The Cotton Dust Project Team proposes to publish an ANPR in order to clarify OSHA's position regarding reevaluation of the cotton dust standard since the publication of the last ANPR and the Supreme Court's decision on this standard. This ANPR narrows the scope of reevaluation described in the earlier ANPR and would focus public attention to those issues which we feel have some merit. The new ANPR would invite comments, data and other types of information for the future publication of a proposed revision to the present standard. Basically, this information will be needed in order to assess the present conditions relative to the standard and in order to justify our proposal to revise the present standard.

The major issues which may be included in this ANPR and the Cotton Dust Project Team's recommendations are as follows:

I. SCOPE AND COVERAGE OF THE STANDARD.

A. Health Risk Data in the Textile Segments of the Cotton Industry

The advantage of including this item in the ANPR is that a small amount of additional health data indicating that the health risk is less than some earlier estimates and that smoking plays a greater role in the pulmonary disfunction has been presented. The disadvantage of including this item is that the only major new study, the Yale Study, indicates that cotton dust is still the major cause of pulmonary disfunction when smoking effects are controlled. Also, the Court of Appeals approved the extensive analysis of health data in the cotton dust standard preamble and pointed out that the industry accepted the existence of the health effects in their brief submitted to the Court. In addition, the Supreme Court stated in regard to the preamble's risk assessment and significant risk determination, "It is difficult to imagine what else the agency could do to comply with this Court's decision in IUD v. API."; (Slip op. p.14, n.25).

In summary, there appears to be little new data to justify reopening the record concerning this issue or to consider revising the PEL. The Cotton Dust Project Team recommends that this issue not be included in the ANPR.

Include this item in the ANPR: YES_____; NO_____

B. Health Risk Data in the Non-Textile Segments of the Cotton Industry

The standard primarily applies to yarn manufacturing and weaving and slashing. The standard has been vacated and remanded or stayed for almost all other segments of the cotton industry except for rug manufacture, medical supplies and cord and twine. Resolution of the status of the non-textile segments would be useful for completing the action on cotton dust and resolving the matter for the public. Necessary to this resolution is a review of health data on the non-textile sector. NIOSH has been conducting such research on some non-textile sectors and has promised this data by November, 1981. It is believed that this NIOSH study should be mentioned in the ANPR to put pressure on completing the study, but that the deadline for comments be sufficiently long so the public can comment on the research if it is available by the promised date. Failure to open this issue to public comment would result in a continuing lack of clarity as to the status of these industry segments. The Cotton Dust Project Team recommends that this item be included in the ANPR.

Include this issue in the ANPR: Yes_____; No_____

II. COST-EFFECTIVENESS ISSUES

A. An action level is an air contaminant level which is below or less than the permissible exposure limit (PEL), frequently one-half of the PEL. Compliance with an action level eliminates some or all of the requirements of a standard. The advantage of including this item in the ANPR is that the regulatory burdens are reduced or eliminated where the health risk is low and it would encourage employers to go below the PEL in order to avoid most or all regulation. The disadvantage in the case of a non-threshold toxin is that the regulatory provisions may provide some additional health protection, even at low levels, below the PEL. The Cotton Dust Project Team recommends that this item be included in the ANPR.

Include this item in the ANPR: Yes______; No_____.

B. Redefine Cotton Dust

The current standard counts artificial fibers, humidifier mineral dusts and other miscellaneous contaminants as cotton dust. Also, the dose-response curve is based on cotton dust which contained some other contaminants. However, some firms would be in compliance if only cotton dust were measured. Current analytical methods, however, cannot test single samples both qualitatively and quantitatively: that is, they cannot separate the cotton dust from other materials and quantify the amount of cotton dust. Public comment might lead to alternative compliance approaches that would allow assumptions about percentages of non-cotton materials. Since the standard is based on a particular kind of sampling, however, this move could be viewed as an attack on the current exposure limits, and a major political and court battle is probable. Careful, cooperative handling of this issue could blunt the opposition and retain the necessary health protections. The Cotton Dust Project Team recommends that this issue be included in the ANPR.

Include this issue in the ANPR: Yes______; No______

C. Definition of Washed Cotton

Thoroughly washed cotton does not have adverse effects on human health. The current standard provides an exemption for "washed cotton", but is unclear as to the definition of that term. Current USDA/NIOSH experiments are expected to produce acceptable industrial washing methods, but the standard would be improved by a performance definition keyed to human respiratory effects (e.g., "washed cotton" is cotton which has been water washed and which does not cause an acute reduction in lung capacity.") This would allow and encourage development of economically sound cotton washing processes. Use of washed cotton would allow mills to comply with the standard without additional capital investment. The Cotton Dust Project Team recommends inclusion of this item.

Include this issue in the ANPR: Yes______; No______

D. The Use of Engineering Controls in Preference to Respirators

Recent industry comments have not emphasized respirator use because employers feel that respirators increase labor turnover costs and because new technilogical developments, primarily designed to boost industry productivity, have sharply lowered cotton dust levels. Most of the larger textile mills are already at 85-90% of compliance with current permissible exposure levels and should shortly achieve full compliance through the use of engineering controls. For those smaller firms that have not yet adopted the more advanced technologies, OSHA could consider extended compliance periods or other special exemptions.

Principal reliance on respirators generally reduces the cost of compliance and can achieve appropriate levels of protection if used correctly but many industrial hygienists believe that they do not provide as good protection because of problems with fit, interference with work operations, facial irritation, and need for supervision. Recently, textile employees and smelter employees have complained to legislative officials about widespread respirator use. Alternative control strategies to the preference for engineering controls include giving the employer guidance in which areas engineering controls are effective at reasonable cost and should be preferred and other areas where because of intermittent exposure or other factors, respirators have fewer disadvantages. The latter approach would maximize employer flexibility however, a very sophisticated and comprehesive respirator program would be required.

An adequate OSHA analysis of this alternative would require an extensive industry survey and a major commitment of time and financial resources

The substitution of respirators for engineering controls might prove time consuming and resource intensive, while providing few benefits. The Cotton Dust Project Team does not recommend the inclusion of this issue in the ANPR.

Include this issue in the ANPR: YES____; NO____

E. Tiering (More Flexible Provisions for Small Business Pursuant to the Spirit of the Regulatory Flexibility Act)

Reopening may lead to information on a possible need for a longer compliance period for small business or more appropriate and less costly provisions for them. The Regulatory Flexibility Act requires consideration of these issues for proposals issued after January 1, 1981.

It is OSHA's experience that little concrete information is presented by small business groups and there may be disputes between segments on the fairness of modifications. The Cotton Dust Project Team recommends the inclusion of this item.

Include this item in the ANPR: Yes_____; No_____

III. TECHNICAL ISSUES.

A. Vertical Elutriator

The Cotton Dust Standard required either the vertical elutriator cotton dust sampler or an equivalent device be used to measure or monitor levels of lint-free respirable dust. The vertical elutriator was the dust sampling instrument used in the epidemiological studies on which the Cotton Dust Standard was based. The use of the vertical elutriator, however, results in many problems. The team feels that a more efficient method of monitoring is needed. New cotton dust sampling instruments are now available. Addressing this issue on the ANPR will bring information on new alternative instruments and other monitoring methods. This will help in deciding whether to propose that alternative sampling instruments be allowed. If alternative instruments are to be accepted as equivalent devices to the vertical elutriator, a set of criteria must be established so that under all conditions, the equivalency holds. It would likely require a study by NIOSH or other groups to determine acceptable equivalent sampling devices. This will take a longer time period to complete. The Cotton Dust Project Team recommends that this item be included in the ANPR.

Include this item in the ANPR: Yes______; No_____

B. Medical Surveillance Requirements of the Standard

In discussions with industry physicians and in comments received in response to the March ANPR, several questions have been raised concerning the medical surveillance program. Interested parties do not appear to disagree with either the need for or with the general re-requirements of the program. However, they have argued that a number of specific requirements are inappropriate and/or place an unnecessary burden on the industry. An example is the requirement for pre-employment physicals. Many plants hire one or two people per week and do not have a company physician. Larger companies which have several facilities may not have a physician at each facility. It is difficult for these employers to provide the required pre-employment exam. It has been suggested that if the requirement were made more flexible, as an exam within ninety days of employment, employees could be given the same protection at a lower cost. At the same time, some industry physicians have indicated that X-rays should be part of the medical surveillance program. The Cotton Dust Project Team recommends that this item be included in the ANPR.

Include this item in the ANPR: Yes______; No______

C. Wage Retention Following Medical Removal Protection, (MRP)

The Supreme Court decision vacated and remanded to the agency the section on wage retention following removal. The decision indicated that our discussion of this section in the preamble was inadequate to explain why we have included this provision. This issue is of interest to both labor and management. Since wage retention following MRP was the only provision of the standard to be remanded,it may be an obvious issue for comments. The Cotton Dust Project Team recommends that this item be included in the ANPR.

Include this issue in the ANPR: Yes_____; No_____

U.S. Department of Labor

Occupational Safety and Health Administration
Washington, D.C. 20210

Reply to the Attention of:

MEMORANDUM FOR: Cotton Dust Project Team

FROM: David M. Smith

SUBJECT: PROPOSAL TO PUBLISH AN ADVANCE NOTICE OF PROPOSED RULEMAKING,(ANPR), ON THE COTTON DUST STANDARD

This memorandum confirms the decisions made by Mr. Cowan concerning the Cotton Dust Team's memorandum regarding the above subject. The Team's memorandum is reprinted below and Mr. Cowan's decisions noted below each item of discussion.

I. SCOPE AND COVERAGE OF THE STANDARD.

A. Health Risk Data in the Textile Segments of the Cotton Industry

The advantage of including this item in the ANPR is that a small amount of additional health data indicating that the health risk is less than some earlier estimates and that smoking plays a greater role in the pulmonary disfunction has been presented. The disadvantage of including this item is that the only major new study, the Yale Study, indicates that cotton dust is still the major cause of pulmonary disfunction when smoking effects are controlled. Also, the Court of Appeals approved the extensive analysis of health data in the cotton dust standard preamble and pointed out that the industry accepted the existence of the health effects in their brief submitted to the Court. In addition, the Supreme Court stated in regard to the preamble's risk assessment and significant risk determination, "It is difficult to imagine what else the agency could do to comply with this Court's decision in IUD v. API."; (Slip op. p.14, n.25).

In summary, there appears to be little new data to justify reopening the record concerning this issue or to consider revising the PEL. The Cotton Dust Project Team recommends that this issue not be included in the ANPR.

Mr.Cowan agreed with this recommendation.

B. Health Risk Data in the Non-Textile Segments of the Cotton Industry

The standard primarily applies to yarn manufacturing and weaving and slashing. The standard has been vacated and remanded or stayed for almost all other segments of the cotton industry except for rug manufacture, medical supplies and cord and twine. Resolution of the status of the non-textile segments would be useful for completing the action on cotton dust and resolving the matter for the public. Necessary to this resolution is a review of health data on the non-textile sector. NIOSH has been conducting such research on some non-textile sectors and has promised this data by November, 1981. It is believed that this NIOSH study should be mentioned in the ANPR to put pressure on completing the study, but that the deadline for comments be sufficiently long so the public can comment on the research if it is available by the promised date. Failure to open this issue to public comment would result in a continuing lack of clarity as to the status of these industry segments. The Cotton Dust Project Team recommends that this item be included in the ANPR.

Mr. Cowan agreed to include this issue in the ANPR.

II. COST-EFFECTIVENESS ISSUES

A. An action level is an air contaminant level which is below or less than the permissible exposure limit (PEL), frequently one-half of the PEL. Compliance with an action level eliminates some or all of the requirements of a standard. The advantage of including this item in the ANPR is that the regulatory burdens are reduced or eliminated where the health risk is low and it would encourage employers to go below the PEL in order to avoid most or all regulation. The disadvantage in the case of a non-threshold toxin is that the regulatory provisions may provide some additional health protection, even at low levels, below the PEL. The Cotton Dust Project Team recommends that this item be included in the ANPR.

Mr. Cowan agreed to include this item in the ANPR.

B. Redefine Cotton Dust

The current standard counts artificial fibers, humidifier mineral dusts and other miscellaneous contaminants as cotton dust. Also, the dose-response curve is based on cotton dust which contained some other contaminants. However, some firms would be in compliance if only cotton dust were measured. Current analytical methods, however, cannot test single samples both qualitatively and quantitatively: that is, they cannot separate the cotton dust from other materials and quantify the amount of cotton dust. Public comment might lead to alternative compliance approaches that would allow assumptions about percentages of non-cotton materials. Since the standard is based on a particular kind of sampling, however, this move could be viewed as an attack on the current exposure limits, and a major political and court battle is probable. Careful, cooperative handling of this issue could blunt the opposition and retain the necessary health protections. The Cotton Dust Project Team recommends that this issue be included in the ANPR.

Mr. Cowan agreed to include this issue in the ANPR.

C. Definition of Washed Cotton

Thoroughly washed cotton does not have adverse effects on human health. The current standard provides an exemption for "washed cotton", but is unclear as to the definition of that term. Current USDA/NIOSH experiments are expected to produce acceptable industrial washing methods, but the standard would be improved by a performance definition keyed to human respiratory effects (e.g., "washed cotton" is cotton which has been water washed and which does not cause an acute reduction in lung capacity.") This would allow and encourage development of economically sound cotton washing processes. Use of washed cotton would allow mills to comply with the standard without additional capital investment. The Cotton Dust Project Team recommends inclusion of this item.

Mr. Cowan agreed to include this issue in the ANPR.

D. The Use of Engineering Controls in Preference to Respirators

Recent industry comments have not emphasized respirator use because employers feel that respirators increase labor turnover costs and because new techniilogical developments, primarily designed to boost industry productivity, have sharply lowered cotton dust levels. Most of the larger textile mills are already at 85-90% of compliance with current permissible exposure levels and should shortly achieve full compliance through the use of engineering controls. For those smaller firms that have not yet adopted the more advanced technologies, OSHA could consider extended compliance periods or other special exemptions.

Principal reliance on respirators generally reduces the cost of compliance and can achieve appropriate levels of protection if used correctly but many industrial hygienists believe that they do not provide as good protection because of problems with fit, interference with work operations, facial irritation, and need for supervision. Recently, textile employees and smelter employees have complained to legislative officials about widespread respirator use. Alternative control strategies to the preference for engineering controls include giving the employer guidance in which areas engineering controls are effective at reasonable cost and should be preferred and other areas where because of intermittent exposure or other factors, respirators have fewer disadvantages. The latter approach would maximize employer flexibility however, a very sophisticated and comprehesive respirator program would be required.

An adequate OSHA analysis of this alternative would require an extensive industry survey and a major commitment of time and financial resources

The substitution of respirators for engineering controls might prove time consuming and resource intensive, while providing few benefits. The Cotton Dust Project Team does not recommend the inclusion of this issue in the ANPR.

Mr. Cowan did not agree to exclude this issue in the ANPR. He recommended that questions concerning this issue be included in the ANPR. Example given was, "Are there any unusual difficulties in meeting engineering controls?"

E. Tiering (More Flexible Provisions for Small Business Pursuant to the Spirit of the Regulatory Flexibility Act)

Reopening may lead to information on a possible need for a longer compliance period for small business or more appropriate and less costly provisions for them. The Regulatory Flexibility Act requires consideration of these issues for proposals issued after January 1, 1981.

It is OSHA's experience that little concrete information is presented by small business groups and there may be disputes between segments on the fairness of modifications. The Cotton Dust Project Team recommends the inclusion of this item.

Mr. Cowan agreed to include this item in the ANPR.

III. TECHNICAL ISSUES.

A. Vertical Elutriator

The Cotton Dust Standard required either the vertical elutriator cotton dust sampler or an equivalent device be used to measure or monitor levels of lint-free respirable dust. The vertical elutriator was the dust sampling instrument used in the epidemiological studies on which the Cotton Dust Standard was based. The use of the vertical elutriator, however, results in many problems. The team feels that a more efficient method of monitoring is needed. New cotton dust sampling instruments are now available. Addressing this issue on the ANPR will bring information on new alternative instruments and other monitoring methods. This will help in deciding whether to propose that alternative sampling instruments be allowed. If alternative instruments are to be accepted as equivalent devices to the vertical elutriator, a set of criteria must be established so that under all conditions, the equivalency holds. It would likely require a study by NIOSH or other groups to determine acceptable equivalent sampling devices. This will take a longer time period to complete. The Cotton Dust Project Team recommends that this item be included in the ANPR.

Mr. Cowan agreed to include this item in the ANPR. He conditioned approval on striking the second from the last sentence in the above paragraph; this sentence is now inclosed in parenthesis.

B. Medical Surveillance Requirements of the Standard

In discussions with industry physicians and in comments received in response to the March ANPR, several questions have been raised concerning the medical surveillance program. Interested parties do not appear to disagree with either the need for or with the general rerequirements of the program. However, they have argued that a number of specific requirements are inappropriate and/or place an unnecessary burden on the industry. An example is the requirement for pre-employment physicals. Many plants hire one or two people per week and do not have a company physician. Larger companies which have several facilities may not have a physician at each facility. It is difficult for these employers to provide the required pre-employment exam. It has been suggested that if the requirement were made more flexible, as an exam within ninety days of employment, employees could be given the same protection at a lower cost. At the same time, some industry physicians have indicated that X-rays should be part of the medical surveillance program. The Cotton Dust Project Team recommends that this item be included in the ANPR.

Mr. Cowan agreed to include this item in the ANPR.

C. Wage Retention Following Medical Removal Protection, (MRP)

The Supreme Court decision vacated and remanded to the agency the section on wage retention following removal. The decision indicated that our discussion of this section in the preamble was inadequate to explain why we have included this provision. This issue is of interest to both labor and management. Since wage retention following MRP was the only provision of the standard to be remanded,it may be an obvious issue for comments. The Cotton Dust Project Team recommends that this item be included in the ANPR.

Mr. Cowan agreed to include this issue in the ANPR.

Appendix #6

the basis adjustment under section 1232(a)(3)(E) and this section.

* * * * *

Roscoe L. Egger, Jr.,
Commissioner of Internal Revenue.

[FR Doc. 82-3427 Filed 2-4-82; 5:07 pm]

BILLING CODE 4830-01-M

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

29 CFR Part 1910

[Docket No. H-052C]

Occupational Exposure to Cotton Dust

AGENCY: Occupational Safety and Health Administration (OSHA), Labor.

ACTION: Advance notice of proposed rulemaking.

SUMMARY: This notice requests comments regarding OSHA's reevaluation of the occupational health standard regulating employee exposure to cotton dust, 29 CFR 1910.1043. The purpose of this notice is to assess the effects of the current standard and to gather additional information concerning those provisions which may be made clearer, more effective or less burdensome. Major issues include the cost effectiveness of various provisions, permissible exposure limits, incorporation of an action level, alternative provisions for small businesses, the use of sampling devices other than the vertical elutriator, and other technical issues.

Information is requested on the health effects of the cotton dust exposures in non-textile industries, including knitting, where the standard is generally not in effect, and on whether a significant risk is presented in those industries. Comments are also requested on health effects and on the exposure levels set for the textile industry including the potential for implementing more cost-effective compliance methods.

DATES: Comments must be submitted by March 26, 1982.

ADDRESSES: Written comments should be submitted in quadruplicate to the Docket Officer, Occupational Safety and Health Administration, Docket No. H-052C, Room S-6212, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, D.C. 20210.

FOR FURTHER INFORMATION CONTACT: James Foster, Occupational Safety and Health Administration, Room N-3637, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, D.C. 20210, Telephone (202) 523-8148.

SUPPLEMENTARY INFORMATION:

Introduction

On June 19, 1978, the Occupational Safety and Health Administration (OSHA) issued an occupational health standard regulating exposure to cotton dust, 29 CFR 1910.1043, at 43 FR 27350. This new standard was intended to supersede the previous OSHA standard which had been adopted by OSHA pursuant to section 6 (a) of the Occupational Safety and Health Act from the prior federal rule under the Walsh-Healey Act.

The apparent necessity for a more stringent and comprehensive regulation was based on the body of scientific and medical evidence showing a severe risk of debilitating respiratory disease, particularly among cotton textile workers. The standard included a permissible exposure limit for airborne concentrations of cotton dust to be met through engineering controls, supplementary use of respirators, implementation of specified work practices, a medical surveillance program, and a program for employee education and training. OSHA found that these elements of the standard were both technologically and economically feasible.

The standard was immediately challenged in the Court of Appeals by affected employees and by various groups of affected employers. On pre-enforcement review, the United States Court of Appeals for the District of Columbia Circuit upheld the standard as it applied to the textile industry, among others, in *AFL-CIO, et al.* v. *Marshall, et al.*, 617 F.2d 636 (1979). The textile industry petitioned for review in the Supreme Court of the United States, asserting that the standard was invalid because of the failure of the agency to justify it on a cost-benefit basis and because the industry argued that OSHA had not adequately demonstrated economic feasibility.

The Supreme Court in *American Textile Manufacturers Institute Inc., et al. (ATMI)* v. *Donovan*, 101 S.Ct 2478 (1981) upheld the decision issued by the Court of Appeals concluding that the Occupational Safety and Health Act requires that exposure levels be reduced to the most protective levels, limited only by the significance of the risk and by feasibility, and that cost-benefit analysis was not to be used in setting exposure limits for toxic substances.

The Court also held that OSHA had demonstrated feasibility, and consequently affirmed the standard. However, it vacated and remanded the provision for wage retention following medical transfers because the agency had not adequately demonstrated the need for the provision.

On March 31, 1981, before the Supreme Court's decision, OSHA published a Federal Register notice at 46 FR 19501 requesting comments on some of the issues discussed in this notice as well as on the use of cost-benefit analysis in setting exposure levels. Information already submitted in response to the March, 1981 advance notice of proposed rulemaking need not be resubmitted. As noted, the *ATMI* v. *Donovan* decision precludes consideration of many of the comments submitted on the cost-benefit issue and has made it inappropriate to apply the use of a cost-benefit test in setting exposure levels for cotton dust. However, new health data and consideration of more cost-effective compliance methods may result in reconsideration of the present exposure levels.

Status of the Standard

The status of the cotton dust standard varies for different industries. The Cotton dust standard (as printed at 29 CFR 1910.1043 (1980)) remains in effect in the "cotton textile" industry which primarily includes yarn production and weaving and slashing.

All provisions are in effect except the completion of the installation of engineering controls which, if not delayed, are required by March 27, 1984 (§ 1910.1043(m)(2)) and the wage retention provision of § 1910.1043(f)(2)(v) which was vacated by the Supreme Court.

OSHA administratively stayed the new standard (45 FR 50328, July 29, 1980) for the warehousing and classing industries to review the significance of the health risk in those segments in response to the Supreme Court's decision regarding OSHA's benzene standard, *Industrial Union Department, AFL-CIO* v. *American Petroleum Institute, (IUD* v. *API)*, 448 U.S. 607 (1980).

OSHA has also administratively stayed the new standard for the knitting and hosiery industries for the same reasons and in order to review the results of medical surveillance data which had been submitted by the knitting industry. Although knitting, by ordinary definition, would be considered part of the textile industry, the standard included it with the non-textile segments, and this classification has been maintained.

The cotton dust standard has been stayed by the District of Columbia Circuit of Appeals Court for the waste processing, cotton batting, bedding and [illegible] industries pending judicial review. The agency has undertaken a review of the record and the standard as it applies to these industries and has made a preliminary determination that the preamble may not provide an adequate statement of rationale for imposing the standard on these industries, in light of the decision in *IUD v. API*. The agency has also concluded that it is appropriate to reopen the record for additional evidence of the health risk in these industries. Since the agency has decided to reconsider the standard, it will request a remand from the Court of Appeals for that purpose.

The District of Columbia Court of Appeals vacated the standard for the cottonseed oil industry based on a lack of economic feasibility information. *AFL-CIO* v. *Marshall*, 617 F.2d 636 (1979).

The Fifth Circuit Court of Appeals vacated a separate standard issued for the cotton ginning industry (43 FR 27418, June 23, 1978; 29 CFR 1910.1044) on the ground that the record did not demonstrate a significant risk of adverse health effects. *Texas Ind. Ginners Assoc.* v. *Marshall*, 630 F.2d 398 (1980).

A major purpose of this Advance Notice and the subsequent rulemaking is to finally resolve the status of the standard in the segments where it is not in effect. The first step in the process will be to determine whether a significant health risk exists in those segments.

Proposed Rulemaking

While the agency has determined that the application of cost-benefit analysis to this standard is precluded by the Supreme Court's decision, the agency has concluded that it is totally appropriate to reexamine new health data and alternative compliance approaches, as well as other matters relevant to the implementation and enforcement of the cotton dust standard. This proceeding is also to provide the opportunity to reconsider and reevaluate several issues which have created difficulties in the monitoring, medical surveillance and enforcement of the standard and to allow the agency to set a more technically accurate and cost-effective standard. For the most part, the issues set forth for comment pertain to provisions of the standard which have been identified by labor, industry and governmental agencies as needing improvement, or which may be made clearer, more effective or less burdensome. In addition, a review of the health effects from exposure to cotton dust in the non-textile segments is necessary to determine whether a significant risk of adverse health effects is present at current exposure levels. A review of new health data regarding the textile segments is also appropriate.

OSHA is not dissolving at this time existing stays in the non-textile and knitting segments where evidence of adverse health effects is more controversial, pending the ongoing review of those effects. OSHA will periodically review those stays, depending both on health data submitted and reasonable progress on ongoing studies.

Issues

OSHA requests written comments and information on the following issues:

1. *Health effects in the non-textile industries.* The standard has been vacated and remanded or administratively or judicially stayed for most of the non-textile segments of the cotton industry (which includes knitting). Resolution of the issues involving the application of this standard to the non-textile industries is important. Necessary to this resolution is a review of health data on the non-textile industry sectors.

The Supreme Court in the benzene decision ruled that there must be sufficient data to support a determination of significant risk of adverse health effects in order to justify issuing new standards. In this regard, the National Institute for Occupational Safety and Health (NIOSH), has conducted research on some non-textile industry segments and has indicated that this data will be available in the near future. In addition, representatives of the knitting industry have submitted to OSHA a study involving a review of their industry's medical surveillance data and this information will be entered into the record. Evidence on health effects in the non-textile sectors in the existing record will be considered along with new information which is submitted.

OSHA requests comments and information on the following:

(a) What is the evidence of risk of adverse health effects in workers exposed to cotton dust in non-textile industries?

(b) What significant epidemiological studies on the effects of exposure to cotton dust in non-textile industries are presently available? What conclusions may be drawn from these studies?

(c) Does the medical surveillance data from workers in non-textile industries show significant risk of adverse health effects from exposure to cotton dust?

(d) What are the specific and average cotton dust exposure levels to which workers are exposed in the non-textile industries? What sampling methods were used to determine employee exposures?

(e) What are the types of occupations, job classifications and industries other than textiles in which workers are exposed to cotton dust? How many workers are exposed in each of the above categories?

(f) Do certain workplaces, processes or occupations expose workers consurrently to toxic substances in addition to cotton dust, which may result in adverse health effects for employees?

2. *New health data in the textile industries.* On review, the United States Court of Appeals for the District of Columbia Circuit upheld the standard as it applied to the textile industry and approved the extensive analysis of health data set forth in the preamble to the standard. After petition by the textile industry, the Supreme Court of the United States reviewed the Court of Appeals' decision and upheld the Secretary's determination that exposure to cotton dust represents a significant health hazard to employees. However, OSHA is aware that there may be new studies to justify reopening the issue of health effects and permissible exposure limits in the textile segments.

OSHA requests comments and information on the following:

(a) What new epidemiological studies on the effects of exposure to cotton dust in textile industries are presently available? What conclusions may be drawn from these studies?

(b) Based upon medical surveillance data from workers in textile industries, what are the levels of risk of adverse health effects to those workers from exposure to cotton dust?

(c) What are the specific and average cotton dust exposure levels to which workers are exposed in the textile industries? What sampling methods were used to determine employee exposures?

(d) What are the types of occupations and job classifications in which workers are exposed to cotton dust? How many workers are exposed in each of the above categories?

(e) Do certain workplaces, processes or occupations expose workers concurrently to toxic substances in addition to cotton dust, which may result in adverse health effects for employees?

3. *Action level.* The cotton dust standard does not contain an action level. An action level is an exposure level below the permissible exposure limit, frequently one-half of the permissible exposure limit, at which some provisions of the standard begin to

apply. Where appropriate, action levels would reduce or eliminate regulatory burdens in instances where the health risks are low. Also, in the case of non-threshold toxins it may improve employee health by encouraging employers who can readily do so to control employee exposures to a level below the permissible exposure limit in order to avoid most or all regulations. It should be noted, however, that in some cotton industry segments, health data show adverse health effects at very low levels and it may not be appropriate to exclude all medical surveillance provisions in those instances.

Some segments of the cotton industry appear to show some evidence of risk at higher levels, but most exposures are substantially below the § 1910.1043 exposure limits, and at those low levels, there appear to be few health problems. An action level is a method to insure that employers will perform initial measurement of worker exposure to determine whether dust levels are either low enough to exclude the workplace from regulation, or high enough to require worker protection from adverse health effects. Because the determination is made on a plant-by-plant basis, an action level may be a more cost-effective approach than either complete coverage or complete exclusion.

OSHA requests comments and information on the following:

(a) Is an action level appropriate for some or all segments of the cotton industry? What impact would an action level have on employee health?

(b) What are appropriate exposure limits for action levels in the various industry segments? Which regulatory provisions should be eliminated when exposures are under the action level?

(c) What would be the cost savings resulting from an action level provision?

4. *Definitions*. OSHA has received inquiries concerning the definition of various terms which are used in the current standard. Specifically, the definitions of the terms "cotton dust" and "washed cotton" have been questioned.

Under the present standard, "cotton dust" is defined to include, "dust present in the air during the handling or processing of cotton, which may contain a mixture of many substances including ground up plant matter, fiber, bacteria, fungi, soil, pesticides, non-cotton plant matter and other contaminants which may have accumulated with the cotton during the growing, harvesting and subsequent processing or storage periods." The definition does not exclude oil mists, mineral dust from various sources and other miscellaneous contaminants which are measured together with raw cotton dust by the vertical elutriator. The issue is complex because the health data used to set the permissible exposure limits are based on studies in which the "cotton dust" evaluations and measurements contained some of these various components. Excluding these components from the measurements may, therefore, increase the health risk at a given exposure level.

In addition, the effect of other potential contaminants has not been fully considered in relation to the measurement of "cotton dust." An example of this situation is the contribution of synthetic fibers to the measurements of "cotton dust" in a blending operation. Such synthetic fibers may not have been adequately considered in the studies upon which the standard is based.

Some health studies indicate that "washed cotton" does not have adverse effects on human health. The current standard provides an exemption for "washed cotton," but is restrictive in its definition of that term. It has been suggested that a clearer and broader definition would encourage the development and use of commercially acceptable washing techniques.

OSHA requests comments and information on the following:

(a) How should "cotton dust" be defined?

(b) If the term "cotton dust" were more narrowly defined would there be an acceptable method of measuring the quantity of certain individual contaminants? Are there any analytical methods which can test single samples both qualitatively and quantitatively; that is, methods that can separate raw cotton dust from other materials and quantify the amount of raw cotton dust in a single sample?

(c) If the term "cotton dust" were more narrowly defined, could an alternative monitoring approach be developed that would permit adjustment of a total sample by a factor representing the amount of non-toxic substance likely to be present?

(d) Would narrowing the definition of "cotton dust" result in any increased risk for employees? Would such action have any major economic affects? If the definition were more narrowly defined, what would be the relationship between the amount of raw cotton dust and the existing permissible exposure limits?

(e) How should "washed cotton" be defined?

(f) Could the definition of "washed cotton" be improved by adopting a performance definition keyed to respiratory effects? What criteria could be used to set performance requirements and to certify compliance?

(g) What would be the health and economic effects of changing the definition of "washed cotton"?

5. *Compliance methods—Engineering controls*. The current standard requires employers to institute a program of engineering and work practice controls to reduce and maintain employee exposure to cotton dust at or below the permissible exposure limit. The standard permits the use of respirators, however, in those cases where the employer can demonstrate that engineering and work practice controls are not feasible. Recent information and comments from news articles, State and Federal compliance officers, labor and industry, and representatives of larger establishments have indicated that many segments of the cotton textile industry are rapidly approaching a substantial level of full compliance with the current standard. Apparently, such compliance has come about through the use of a new generation of textile equipment that is more productive, produces higher quality yarn and cloth, and keeps dust levels lower. Indeed, low dust levels are often needed for the efficient operation of this equipment. Examples include automatic opening, chute-fed and high speed cards, open-end spinning, and shuttleless looms.

OSHA requests comments and information on the following:

(a) Are there more cost-effective ways of reducing cotton dust related illnesses?

(b) Are there specific areas where there are unusual technical difficulties in meeting the present engineering control and work practice requirements?

(c) Are there particular operations where there are persistent problems in meeting the permissible exposure limits through the use of engineering controls? If so, do these problems exist in newly designed plants that have new equipment?

6. *Tiering*. "Tiering" is the tailoring of regulatory requirements to fit the special circumstances of designated classes of regulated entities, such as small businesses. Consideration of tiering to make standards less burdensome for small businesses is a requirement of the recently enacted Regulatory Flexibility Act (5 U.S.C. 601 et seq.) for standards proposed or amended after January 1, 1981.

OSHA requests comments and information on the following:

(a) Is there a need for alternative compliance methods for small businesses? What statistical and economic data, resource limitations and other data indicate this need?

[illegible] kinds of alternative [illegible] methods should be considered? Would longer compliance periods be appropriate? Could such alternatives provide employees of small businesses with adequate protection?

7. *Cotton dust sampling devices.* The cotton dust standard requires that either the vertical elutriator cotton dust sampler or an equivalent device be used to measure or monitor levels of lint-free respirable dust. The vertical elutriator was the dust sampling instrument used in the epidemiological studies on which the cotton dust standard was based and therefore measurements utilizing it correlate best with the then existing health data.

The use of the vertical elutriator, however, has resulted in several technical problems. It is heavy and hard to set up, a technician or industrial hygienist can take few measurements per work day and disputes can develop over proper location or placement of the device.

New cotton dust sampling instruments are now available and these alternative instruments may be accepted as equivalent to the vertical elutriator if they meet the criteria specified in the standard. There have been very few attempts, however, to qualify these alternative instruments as equivalent to the vertical elutriator, although an alternative instrument has been accepted as capable of equivalency in specific situations.

OSHA requests comments and information on the following:

(a) What problems exist with the use of the vertical elutriator?

(b) Are there more appropriate methods of monitoring than the vertical elutriator?

(c) Are there better methods of criteria for establishing equivalency? Can equivalency criteria be developed so that alternate methods could be accepted under most conditions?

(d) Are there any devices that can be shown to have a record of equivalency to the vertical elutriator throughout the various cotton industries or in specific major industry segments?

(e) Are there any devices that can [illegible] cotton dust and other [illegible] both qualitatively and [illegible] in a single sample?

[illegible] What monitoring frequency is [illegible]? Are there substantial [illegible] between the exposure levels [illegible] work shifts at the same [illegible] locations?

[illegible] *Medical surveillance requirements.* [illegible] questions have been raised [illegible] the medical surveillance [illegible] contained in the present [illegible]. Interested parties appear not to disagree either with the need for or with the general requirements of the program. They have argued, however, that a number of specific requirements are inappropriate and/or place an unnecessary burden on the industry.

An example is the requirement for pre-employment physical examinations. Many plants hire only one or two people per week and do not have a company physician. It may be difficult for these employers to provide the required pre-employment exam within the time prescribed by the current standard. It has been suggested that this requirement could be made more flexible, while providing employees the same protection at a lower cost.

OSHA requests comments and information on the following:

(a) Should the section which deals with initial medical examinations be modified to allow more latitude for the physicians in regard to the specific examination requirements? If so, how should the section be modified?

(b) Should the standard require a system to be used to determine the dyspnea and bronchitis grade for each employee? If so, what system should be used?

(c) If an action level were incorporated into the standard, what provisions of the medical surveillance section could be excluded for those establishments which comply with such an action level?

(d) Should the standard require that all employees exposed to cotton dust be informed of the additive adverse effects which may be caused by cigarette smoking?

(e) Should the section of the standard that deals with maintaining records of the medical surveillance program be modified? If so, what modifications should be made?

(f) Should the paragraph which describes what information an employer must provide to the examining physician be modified? If so, how should it be modified?

(g) Should the paragraph which describes the information which must be contained in the physician's written opinion be modified? If so, how should it be modified?

(h) Should the requirement for six month follow-up examinations for certain categories of employees be modified? If so, how should it be modified?

9. *Wage retention following medical transfer.* Section 1910.1043(f)(2)(v) provides generally that if a physician determines that an employee is unable to wear any form of respirator where its use is necessary, that employee is to be given the opportunity to transfer to a location or job where cotton dust levels are below the permissible exposure limit, if such locations or jobs are available. The standard also provided that employers should guarantee no loss of earnings because of such a transfer.

The Supreme Court decision vacated and remanded to the agency for further consideration the wage guarantee provisions of the standard. The Supreme Court did not address the question of whether OSHA had statutory authority to include such provisions but stated that the agency had not explained how the provision was related to employee health.

In response to the remand, OSHA requests comments and information on the following:

(a) Would a wage retention provision contribute either directly or indirectly to employee health?

(b) How many employees have been transferred due to their inability to wear a respirator? Did the employees who were transferred suffer any loss in earnings? Have employees who were unable to wear respirators been discharged from employment? What is the current practice concerning employees who are unable to wear respirators?

(c) What were the actual costs associated with the wage retention provision prior to the Supreme Court's decision and what cost estimates can be projected for provisions which would require employee wage retention following medical removal?

(d) Should a wage retention provision be included in the cotton dust standard and, if so, what should the provision contain?

10. *Economic Data.* OSHA's rulemaking will comply with Executive Order 12291, which requires the preparation of a regulatory impact analysis for all major actions; and with the Regulatory Flexibility Act, which requires the preparation of regulatory flexibility analyses for actions having a significant economic impact on a substantial number of small entities. Consequently, OSHA is soliciting information on the financial condition of the affected industries, and the economic implications of compliance with the present cotton dust standard.

OSHA requests comments and information on the following:

(a) For each industry affected by the cotton dust standard, what are the major production processes for which workers are exposed to respirable cotton dust? How many workers are exposed at each process and at what dust level?

(b) What has the industry spent to implement the various provisions of the current cotton dust standard? How effective were these controls in reducing dust levels? How has the more modern machinery affected productivity at the plant while limiting dust emissions? Have these controls helped to reduce other workplace hazards such as toxic emissions or high noise levels?

(c) Where compliance with the current standard for dust exposure has not yet been achieved, what methods will be used to achieve such compliance? Which dust-control operations will rely upon retrofitting existing plant and equipment and which will depend upon the purchase of new modernized equipment? What will be the cost of implementing these procedures and controls, and what effect will these new technologies have on plant productivity and output levels? How does the time required for the installation of engineering controls affect these costs? Do these estimates apply to small as well as large firms?

(d) Over the previous 5 years, what was the industry's annual employment turnover rate? What percentage of the new hires were not previously engaged in that same industry?

11. *Environmental effects.* The National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321, et seq.), the Council on Environmental Quality (CEQ) regulations (40 CFR Part 1500; 43 FR 55978, November 29, 1978), and the Department of Labor (DOL) NEPA Compliance Regulations (29 CFR Part 11; 45 FR 51187 et seq., August 1, 1980) require that Federal agencies give appropriate consideration to environmental issues and impacts of proposed actions significantly affecting the quality of the human environment. OSHA is currently collecting written information and data on possible environmental impacts that may occur outside of the workplace as a direct or indirect result of promulgation of a revised standard for occupational exposure to cotton dust. Such information should include any negative or positive environmental effects that could result from the revised regulation.

OSHA requests comments and information on the following:

(a) In particular, how would alternative regulations of worker-exposure to cotton dust alter ambient air quality, water quality, solid waste, or land use?

Public Participation

Interested parties are asked to submit written comments by March 26, 1982 in quadruplicate to the Docket Officer, Docket No. H-052C, Room S-6212, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, D.C. 20210. All written comments submitted in response to this notice will be available for inspection and copying in the Docket Office, Room S-6212 at the above address between the hours of 8:15 a.m. and 4:45 p.m., Monday through Friday. All timely written submissions, as well as other information gathered by this agency will be considered in determining the nature of any proposal.

(Sec. 6, Pub. L. 91-596, 84 Stat. 1593 (29 U.S.C. 655) 29 CFR Part 1911; Secretary of Labor's Order No. 8-76 (41 FR 25059))

Signed at Washington, D.C. this 4th day of February 1982.

Thorne G. Auchter,

Assistant Secretary.

[FR Doc. 82-3480 Filed 2-8-82; 8:45 am]

BILLING CODE 4510-26-M

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29 CFR Part 1926

[Docket No. S-301]

Concrete, Concrete Forms, and Shoring; Advance Notice of Proposed Rulemaking

AGENCY: Occupational Safety and Health Administration, Labor.

ACTION: Advance notice of proposed rulemaking; request for comments.

SUMMARY: The Occupational Safety and Health Administration (OSHA) is planning to revise its safety standards contained in Subpart Q of 29 CFR Part 1926 §§ 1926.700 through 1926.702. The existing standards cover safety hazards associated with concrete and masonry construction.

The purpose of this notice is to solicit information regarding the appropriate content and scope of a complete revision of Subpart Q as a future rulemaking action. This notice is not a proposal to revise Subpart Q. When a proposal is developed, it will be referred to the Advisory Committee for Construction Safety and Health for review and recommendations before publication in the Federal Register.

DATE: The written information requested in this notice should be postmarked on or before April 10, 1982.

ADDRESS: Written comments, data, or information requested in this notice should be submitted in quadruplicate to the Docket Officer, Docket No. S-301, Room S-6212, U.S. Department of Labor, Occupational Safety and Health Administration, 200 Constitution Avenue, N.W., Washington, D.C. 20210, (202) 523-7894.

FOR FURTHER INFORMATION CONTACT: Mr. Roger McClellan, Directorate of Safety Standards Programs, Office of Construction and Civil Engineering Safety Standards, Occupational Safety and Health Administration, U.S. Department of Labor, Room N3510, 200 Constitution Avenue, NW, Washington, D.C. 20210, (202) 523-7198.

SUPPLEMENTARY INFORMATION:

Background

The provisions currently in Subpart Q of Part 1926 were promulgated by OSHA in 1971 as established Federal standards, under Section 6(a) of the Occupational Safety and Health Act of 1970 (the Act), 29 U.S.C. 655(a). The standards in Subpart Q, §§ 1926.700 through 1926.702 cover safety hazards associated with concrete construction.

The hazards addressed in Subpart Q include those associated with concrete construction including premature removal of forms, form erection, shoring, reshoring, concrete pumping, reinforcing steel erection, concrete curing, and concrete placement.

The question of the adequacy of the existing standards in Subpart Q has received considerable attention as a result of several concrete construction accidents over the past few years, including the disastrous collapses of the Willow Island, West Virginia cooling tower, the Skyline Tower Plaza in Fairfax County, Virginia and the condominium in Cocoa Beach, Florida.

Several factors indicate to OSHA that a comprehensive revision of its Subpart Q may be necessary. One factor is that OSHA has been petitioned by interested parties to adopt standards requiring in-place testing of concrete and to make other changes to the existing standards.

Another factor concerns the possible need for broader coverage of precast concrete and masonry operations. For example, current OSHA standards may not adequately address significant hazards associated with precast concrete placement and the bracing of masonry walls during construction.

OSHA also recognizes that since the adoption of Subpart Q in 1971, there have been advances in technology and construction practices associated with concrete and masonry construction. These changes may have created a need for revising the present Subpart Q standards to better address concrete safety.

For these reasons, OSHA has concluded that a comprehensive review and revision of its Subpart Q standards may be necessary to assess the appropriateness of the existing standards under current conditions and to provide more effective protection, if

Appendix #7

BEFORE THE
UNITED STATES DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
WASHINGTON, D.C.

COMMENTS
OF THE
AMERICAN TEXTILE MANUFACTURERS INSTITUTE, INC.
ON
DOCKET NO. H-052C
OCCUPATIONAL EXPOSURE TO COTTON DUST: ADVANCE NOTICE OF PROPOSED RULEMAKING

Communications Regarding
These Comments Should Be
Addressed to:

W. Ray Shockley
Executive Vice President
American Textile Manufacturers
Institute, Inc.
1101 Connecticut Avenue, N.W.
Suite 300
Washington, D.C. 20036
(202) 862-0555

and

Neil J. King
Wilmer, Cutler & Pickering
1666 K Street, N.W.
Washington, D.C. 20006
(202) 872-6061

March 26, 1982

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BEFORE THE
UNITED STATES DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

Occupational Exposure to Cotton Dust:)
Advance Notice of Proposed Rulemaking) Docket No. H-052C

COMMENTS OF
THE AMERICAN TEXTILE
MANUFACTURERS INSTITUTE, INC.

INTRODUCTION

On February 9, 1982, the Occupational Safety and Health Administration ("OSHA") published in the Federal Register (47 Fed. Reg. 5906) an Advance Notice of Proposed Rulemaking ("ANPR"), requesting comments on its reevaluation of the Cotton Dust Standard, 29 C.F.R. § 1910.1043. The notice sought information and views relevant to assessing the effects of the current Standard and identifying ways in which the Standard could be clarified and made more effective, less burdensome, and more specifically and directly responsive to actual health problems. These Comments constitute the initial response of the American Textile Manufacturers Institute, Inc. ("ATMI") to the ANPR.

We must emphasize that these Comments are an initial response. They do not represent all the information that ATMI has to present on the issues raised in the ANPR.

The period provided for the filing of comments was brief. ATMI has worked diligently to gather, organize, and integrate information from its membership, which consists of approximately 200 textile companies. The abbreviated comment period allowed ATMI to compile relevant information and prepare a submission addressing some but not all of the issues raised in the ANPR. We are continuing to collect information on the other issues and expect to supplement these Comments in various respects during the weeks ahead. The specific areas in which supplemental information will be provided are indicated in the text of these Comments.

Although all of the relevant data is not yet in hand, ATMI believes that, considered as a whole, the information to be presented in response to the ANPR will demonstrate that the present Standard should be revised in a number of respects. These modifications range from the establishment of more realistic permissible exposure limits to a variety of more specific "nuts and bolts" adjustments relating to various monitoring, medical surveillance and work practice requirements. They include the adoption of action levels and appropriate exclusions in certain instances.

All of the changes that ATMI believes to be warranted are fully compatible with protecting the health of textile industry workers. Obviously, some of our proposed modifications would have a more substantial impact in reducing unjustified costs and burdens than others. But even the "nuts and bolts" adjustments that ATMI proposes would go a long way toward eliminating burdens and expenses that need not be incurred to provide effective health protection to textile industry employees. Moreover, these "nuts and bolts" adjustments not only would reduce unjustified burdens and expenses for the industry; they also would simplify and make less expensive the government's role in monitoring compliance with the Standard and taking appropriate enforcement action.

I. Health Effects Data

The Cotton Dust Standard has been in effect for the past two years. During that time, a considerable body of data relating to the extent of any acute and chronic respiratory problems in the textile industry has been collected, much of it as a direct response to the requirements of the Standard. Soon after the ANPR was issued, ATMI retained a consultant, Dr. Harold R. Imbus, to identify, collect and analyze this data.

Dr. Imbus' objective will be to identify the extent of acute and chronic respiratory problems among cotton textile workers and to assess that information in light of what is known about groups that are not exposed to cotton dust. Dr.

Imbus is well along in the process of assembling and analyzing this information and preparing a report on the results of his analysis. We anticipate that Dr. Imbus' report will be completed within the next two to three weeks, at which time ATMI will file the report, along with an assessment of its implications for the Cotton Dust Standard, as a supplement to these Comments.*/

Although we await Dr. Imbus' report to provide a more comprehensive analysis of the health status of textile workers, there is some information that already can be considered by the agency. In particular, during 1981, ATMI sent a questionnaire to each of its member companies, requesting information about the test results compiled under the medical surveillance programs that the companies were required to implement under the Cotton Dust Standard. (A copy of the questionnaire is attached to these Comments as Exhibit 1.) Altogether, 142 companies, employing a total of 397,820 workers, responded to the questionnaire. Somewhat more than one-half of these workers -- 151,188 -- had participated in medical surveillance programs mandated by the Cotton Dust Standard.

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*/ ATMI also has retained Epidemiology Resources, Inc. of Chestnut Hill, Massachusetts, to review and analyze a study by Beck, et al., entitled "Follow-Up of Active and Retired Cotton Textile Workers" (Dep't of Labor Contract No. J-9-M-8-0168, April 1981). We anticipate that the Epidemiology Resources report will be available in approximately two months, at which time we will submit it for the record in this proceeding.

The questionnaire was designed to elicit information showing the extent to which cotton textile workers were suffering from substantially abnormal pulmonary function, which, in accordance with the Standard, was defined as an FEV_1 below 60 percent of the predicted level. For those workers who displayed such pulmonary impairment, a further inquiry was made to determine whether the impairment was attributable to exposure to cotton dust.

The survey found that 3,669 employees -- or 2.4 percent of the 151,188 employees covered by the Standard -- displayed substantially abnormal pulmonary function (below 60 percent of the predicted levels) due to some cause, not necessarily related to cotton dust. (The tabulated results of the survey are shown on attached Exhibit 2.) The great majority of these employees (3,555 out of 3,669) were referred to chest specialists not employed by the textile industry for evaluation and diagnosis. Only 670 of these workers -- just 0.4 percent of the 151,188 employees covered by the Standard at the responding companies -- were diagnosed by the independent chest specialists as having byssinosis with lung impairment. This figure, 0.4 percent of the sample of covered workers, indicates that the dimension of any respiratory health problem in the cotton textile industry is much smaller than seems to have been believed by some people -- including those responsible for developing the present Standard.

EXHIBIT 1

ATMI QUESTIONNAIRE ON COTTON DUST MEDICAL SURVEILLANCE PROGRAMS *

1) How many employees do you have? No. ______________

2) How many are covered by the OSHA cotton dust standard? No. ______________

(If zero, do not answer questions 3-6)

3) How many employees have you tested in the latest 12 month period for which data are available? No. ______________ Period ______________

4) How many of those had FEV_1 below 60% predicted? No. ______________

5) How many employees have you referred to specialists since the beginning of your program? No. ______________

6) How many of these were diagnosed as having byssinosis? No. ______________

* Required by the OSHA cotton dust standard to be in operation by March 27, 1981

Return to: John G. Tritsch
Director of Safety and Health
ATMI
1101 Connecticut Avenue, N.W.
Suite 300
Washington, D.C. 20036

EXHIBIT 2

1 8 1981

Ernst & Whinney

153 East 53rd Street
New York, New York 10022

212/888-9100

December 15, 1981

Mr. John G. Tritsch
Director of Safety and Health
American Textile Manufacturers Institute
1101 Connecticut Avenue, N.W.
Suite 300
Washington, D.C. 20036

Dear Mr. Tritsch:

Set forth below are the tabulated responses of 142 questionnaires that your office circulated with regard to the Cotton Dust Medical Surveillance Program.

1.	How many employees do you have?	No. 397,820
2.	How many are covered by the OHSA cotton dust standard?	No. 151,188
3.	How many employees have you tested under your medical surveillance program in the latest 12 month period for which medical data are available?	No. 172,033
4.	How many of those had FEV_1 below 60% predicted?	No. 3,669
5.	How many employees have you referred to specialists since the beginning of your program?	No. 3,555
6.	How many of these were diagnosed as having byssinosis?	No. 570

We are happy that we could be of assistance and hope that you will call upon us soon again.

Very truly yours,

ERNST & WHINNEY

DEPARTMENT OF HEALTH & HUMAN SERVICES

Appendix #8

DOCKET OFFICER
DATE 4/2/82
TIME

Memorandum

Date March 31, 1982

From Director, NIOSH

Subject Comments Regarding OSHA's Reevaluation of the Occupational Health Standard Regulating Employee Exposure to Cotton Dust (Re - Docket H-052C)

To Docket Officer, OSHA

Attached is the NIOSH submission in quadruplicate to the Docket for the OSHA Reevaluation of the Cotton Dust Standard. These are the NIOSH comments to the Advance Notice of Proposed Rulemaking (ANPR) appearing in the Federal Register of 9 February 1982 (47 FR 5906-5910). They are contained in five attached documents listed at the bottom of this letter.

As we have indicated in the attached submission there will be information forthcoming when certain studies are completed. We request that you accept them, after the submission deadline of 26 March 1982.

Richard A. Lemen /for
J. Donald Millar, M.D.
Assistant Surgeon General
Director

Attachments

A. NIOSH Comments on OSHA Cotton Dust ANPR; 26 March 1982.
B. Characterization of Byssinosis and other Pulmonary Abnormalities in the Cotton Waste Utilization Industry; Engelbert, A., Carlson, M., et al., NIOSH (November 1981).
C. Respiratory Disorders and Dust Exposure in Sectors of the Cotton Industry of the United States - Part 1: Cotton Gins; Carlson, M., Shasby, M., et al.; NIOSH (November 20, 1981).
D. Appendix to Characterization of Byssinosis and other Pulmonary Abnormalities in the Cotton Waste Utilization Industry and Respiratory Disorders and Dust Exposure in Sectors of the Cotton Industry of the United States - Part 1: Cotton Gins; NIOSH (November 1981).
E. Classification of Clinical Manifestations and Lung Function Changes in Respiratory Disorders from Exposure to Vegetable Dusts Causing Byssinosis or Respiratory Tract Irritation; assembled by NIOSH, 26 March 1982.

cc: J. Martonik
R. Lemen
R. Glenn
R. Coene

Attachment A
NIOSH Submission
Docket No. H-052C
26 March 1982

NIOSH Comments on OSHA
Cotton Dust
Advance Notice of Proposed Rulemaking (ANPR)
26 March 1982

NIOSH addresses the specific issues requested by OSHA in its 9 February 1982, Cotton Dust ANPR (47 FR 5906) as follows. It may be necessary to expand or modify this response, after the March 26, 1982 deadline established by the original ANPR because of availability of three additional secondary cotton industry reports now in preparation.

Issue 1 - HEALTH EFFECTS IN THE NON-TEXTILE INDUSTRIES

NIOSH is in the process of completing studies of five sectors of the "non-textile" or "secondary" cotton industry. The "non-textile" cotton industry is that part of the cotton industry in which the spinning of cotton yarn or the weaving of cotton cloth does not occur. NIOSH has completed studies of two of the five sectors, the cotton waste utilization industry and cotton gining. It is our understanding that preliminary drafts of these studies have been submitted to the OSHA Docket Officer. The final reports of these two studies are attached. Reports on compressing and warehousing, as well as, cottonseed oil mills and classification offices are under development and will be submitted to the Docket Officer upon their completion.

Issue 2 - NEW HEALTH DATA IN THE TEXTILE INDUSTRIES

NIOSH's comments concern the two surveys conducted by the American Textile Manufacturers Institute (ATMI), regarding the prevalence of disease and the efficacy of medical surveillance programs. According to ATMI these surveys indicate that medical surveillance has diminished the prevalence of byssinosis to .4% of the workforce. It is the NIOSH position that the survey design employed by ATMI violated many basic premises of epidemiology. NIOSH recommends to OSHA that these surveys be disregarded as credible scientific investigations of lung disease in the cotton textile industry.

Our specific comments are as follows:

Phase I Survey

a. Selection bias

The format of the survey was a questionnaire to all ATMI member companies. One hundred forty-two companies responded. It is not clear what proportion of ATMI these 142 companies represent. The survey purports to include data obtained from 150,000 workers; in fact, it only contains responses to questionnaires sent to 142 companies, not to 150,000 individual workers.

We have no knowledge of the demographic characteristics of the 150,000 workers on whom the member companies provided information. We do not know their age distribution, sex distribution, race distribution and most importantly, the distribution of their length of employment, a very crucial factor in determining exposure. Among those companies that responded, we have no knowledge of the rate of employee turnover, nor how many workers were employed but quit in a matter of a few weeks to months and were therefore not included in medical surveillance. Although most cross-sectional studies have this problem, nearly all of them try to account for it. This study does not.

b. Ascertainment bias

After selection, there is substantial room for bias in data collection and analysis with respect to ascertaining the characteristics of the groups under study. We have no knowledge of the type and format of the individual questionnaire used by ATMI, under what conditions and by whom it was administered (self-administered, trained or untrained interviewers). Similarly, we have no knowledge of the methods used to obtain pulmonary function data. The present OSHA Cotton Dust Standard (29 CFR 1910.1043) explains in detail the acceptable tolerances for pulmonary function testing equipment, training of technicians and administration of the tests. It also clearly establishes the predicted values of Knudson, et al., as the comparison standard. We do not know if these standards were used in the ATMI study. It is a rare study in which all pulmonary function tests are acceptable, yet investigators usually mention the extent of their technical problems and the impact on the results. In this survey these issued are not addressed. Until this is clarified, the pulmonary function test data are meaningless.

c. Definition of Disease State

It is well known that exposure to cotton dust causes more than one type of pulmonary reaction. First, there is the classic periodic chest tightness and shortness of breath with or without cough which begins on the first day back to work, and may continue on subsequent days. There is also a more non-specific respiratory tract irritation which results in cough and phlegm. If this continues for more than two years, it is usually defined as chronic bronchitis. Both these disease states are based only upon subjective responses gathered from questionnaires. In Phase I of the ATMI survey, these disease states were completely ignored. The other conditions that can occur are abnormalities in pulmonary function, either acute (defined as greater than or equal to a 10% decrement in FEV_1 over a workshift) or chronic (pre-shift values abnormally low). These effects may be independent of symptoms. Again the ATMI survey completely ignores the acute pulmonary function test changes. For the chronic change, the existing Cotton Dust Standard establishes that an FEV_1 of less than 80% of predicted is indicative of chronic pulmonary impairment and this warrants more frequent observation. Pulmonary function less than 60% of predicted represents severe impairment, and may be considered disabling. However, ATMI defines the only category of disease state, which they call "byssinosis", as decrements of less than 60% of predicted pulmonary function. Since the ATMI seems to ignore symptoms and milder pulmonary function abnormalities, it is questionable whether their member companies' surveillance programs are designed in any way to detect early indicators of disease and consequently to take appropriate ameliorative action.

d. Analysis

Most of the problems of analyses stem from inadequate controls on the cohort selection and ascertainment bias, and from the narrow definition of disease. Since age, sex, race, smoking and years of employment are not accounted for in the survey, the rate of prevalence of disease provided by ATMI is extremely crude. Since their estimation of the rate of disease is so crude, the ATMI study may have masked certain groups among which a greater prevalence may exist. This crude prevalence is therefore meaningless and cannot be compared to earlier, scientifically valid studies.

Phase II Survey

This survey is purported to be an in-depth analysis of medical surveillance data obtained from 50,945 employees. The criticism made concerning the Phase I study also apply to the Phase II study and additional issues that require resolution.

a. Are the 50,945 workers in this survey a subset of the original 150,000 workers; if so, how and why were they selected? How were their employing companies selected for the Phase II survey?

b. At least some mention of Monday chest tightness and chronic bronchitis is made in this survey, but ATMI only states that it is aware of these diseases without elaboration.

In conclusion, unless ATMI intends to provide a more complete description of its methodologies, we must disregard the results and conclusions of their surveys, and suggest that others do the same.

Issue 3 - ACTION LEVEL

NIOSH addresses the action level with respect to medical surveillance under Issue 8.

Issue 4 - DEFINITIONS

In the present Cotton Dust Standard (29 CFR 1910.1043), OSHA has defined cotton dust as

> "dust present in the air during the handling or processing of cotton, which may contain a mixture of many substances

> including ground up plant matter, fiber, bacteria, fungi, soil, pesiticides, non-cotton plant matter, and other contaminants which may have accumulated with the cotton during the growing, harvesting and subsequent processing or storage periods. Any dust present during the handling and processing of cotton through the weaving or knitting of fabrics, and dust present in other operations or manufacturing processes using new or waste cotton fibers or cotton fiber by-products from textile mills are considered cotton dust."

Bract particles and gram negative bacteria, including their endotoxins, are thought to be the components of cotton dust that cause adverse health effects. No theory of causation has been universally accepted.

As causative agents of byssinosis become elucidated, there will be need for development of new sampling methods. For example, endotoxin content of vertically elutriated cotton dust can be quantitated by the Limulus method. This type of analysis requires the services of a competent microbial laboratory. There is some preliminary indication that the analysis of total dust (collected by personal samples) for endotoxin may be an adequate index of exposure. NIOSH does not now recommend to OSHA that a microbial standard be substituted for a gravimetrically determined environmental Permissible Exposure Limit (PEL). However, if future research shows that microbial components of cotton dust are clearly responsible for adverse health effects, then OSHA may wish to consider the inclusion of microbial analysis in their standard.

Issue 5 - COMPLIANCE METHODS - ENGINEERING CONTROLS

NIOSH has no new (post 1978) information to add.

Issue 6 - TIERING

NIOSH is not commenting on this issue, since it relates to enforcement policy.

Issue 7 - COTTON DUST SAMPLING DEVICES

NIOSH has no new instrumentation or suggestions to replace the vertical elutricator. We discuss the issue of defining cotton dust in our discussion of Issue 4.

Issue 8 - MEDICAL SURVEILLANCE REQUIREMENTS

OSHA has requested comments on eight points regarding medical surveillance. NIOSH offers the following comments concerning medical surveillance.

(a). This question concerns requirements for the initial medical examination, and whether more latitude should be given to physicians in performing these requirements. The requirements are: (1) medical history; (2) the standard questionnaire; (3) pulmonary function tests, given under certain time constraints and technical standards, using specified predicted values, and;(4) classifying persons according to Schilling's byssinosis grades. These requirements are prefaced by the statement that in the case of new employees this examination shall be provided prior to initial assignment.

A major concern, according to the ANPR of February 9, 1982, is the problem of providing pre-placement exams on all persons prior to initial assignment, especially in small companies who only hire a few employees at a time. NIOSH recommended in its 1974 Criteria Document that an examination prior to employment is essential to acquiring baseline data on the health status of new employees. In addition, NIOSH recommended that each worker be re-examined after their sixth week of employment to determine if acute ventilatory changes had taken place even after a brief exposure. It would be imprudent for NIOSH to now concur that the initial baseline examination, could be delayed for presumably weeks or months. These examinations, then, would fail to be baseline and therefore early detection of decrements in pulmonary function would not be possible.

As for the other requirements of the initial medical examination there is latitude. For instance, the content of the "medical history" is left to the physicians discretion. The mandated standardized questionnaire, according to testimony supplied in the supporting statements, is just one form of many that were provided to OSHA. This questionnaire, as are all others, was derived from the basic British Medical Research Council questionnaire. As to the technique and timing of pulmonary function testing, and the use of Knudson's prediction values, its fairly obvious that the technique must fall within certain defined tolerances and that the timing of the tests must be arranged so that they provide the optimum condition for detecting acute airway response to exposure over the workshift. Knudson's values provide the best comparison values for FEV_1 currently available. To allow other comparison values to be used would lead to confusion.

In summary, NIOSH reiterates its conclusion that the initial examination should remain as "pre-placement", and that ample latitude be given to the examining physician, where appropriate.

(b). This issue deals with the establishment of a bronchitis and dyspnea grading system. We concur with OSHA that bronchitis, or more generally respiratory tract irritation, is a response to exposure to cotton dust independent of the classical periodic chest tightness/shortness of breath of the Schilling byssinosis classification. The World Health Organization's Study Group on Recommended Health Based Exposure Limits to Vegetable Dusts (cotton, flax, and soft hemp) recently formulated a new classification system for clinical manifestations and lung function changes in respiratory disorders. The system is based on exposure to vegetable dusts and its ability to cause byssinosis or respiratory tract irritation. This classification system is Attachment E of this submission. The new classification system clearly defines respiratory track irritation as a health effect, and modifies the Schilling classification of byssinosis by eliminating Grade 1/2. NIOSH proposes that this classification system be adopted by OSHA as the method of classifying subjective and objective responses to cotton dust exposure.

(c). In its 1974 Criteria Document, NIOSH, in contrast to its other recommended standards, elected not to establish an action level. At that time NIOSH concluded, based on the dose response data of Merchant et al. (1973) that the risk of byssinosis (all grades) in yarn preparation was 12.7% at 200 ug/m^3, the current OSHA standard, and 6.5% at 100 ug/m^3. There has been no recent data to suggest that the risks, as defined in the dose response curves, have lessened. Since, NIOSH still contends there is a quantifiable risk of byssinosis even at 100 ug/m^3, no action level should be set.

(d). This question raises the issue of requiring that all employees be informed of the additive adverse effects which may be caused by cigarette smoking and cotton dust exposure. There are studies that report an additional decrement in lung function among cotton dust exposed workers who smoke. However, it is not necessary or desirable to require that workers be informed of the perils of smoking as a part of this standard. If companies wish to include a discussion of the hazards of smoking in their health education campaign they should feel free to do so, as long as they do not misrepresent the health effects of exposure to cotton dust alone.

(e,f,g). NIOSH sees no reason to modify the sections of the standard that address maintenance of records, employer provided information, or the physicians written opinion.

(h). NIOSH sees no reason to modify the section dealing with the six-month medical follow-up of certain employees.

Finally, NIOSH reaffirms its contention that medical surveillance must be used as an adjunct to engineering controls. That engineering controls are the primary workplace control mechanisms is an axiom of industrial hygiene universally recognized:

> "It is important to stress at the outset that periodic health examinations are no substitute for improvements in working conditions.....The medical content of examinations is not usually specific to any great degree.....The fact is sometimes overlooked that examination of a worker does nothing to eliminate the hazard. Examinations must be considered as secondary measures which are indicated when there are defects in the technical development of hygiene at the place of work. Technical improvements should be considered first, and the goal should be to make examinations unnecessary." (World Health Organization, Study on Periodic Examinations of Workers Exposure to Industrial Hazards, ICP/WKH 002, 14 June 1979).

Since Issues 9, 10 and 11 address topics outside the mandate and expertise of NIOSH, no comments are offered.

REFERENCE

Merchant, J.A., Lumsden, J.C., Kilburn, K.H., O'Fallon, W.M., Ujda, J.R., Germino, V.H., Jr., Hamilton, J.D., (1973); Dose-response studies in cotton textile workers. Journal of Occupational Medicine. 15:222-230.

U.S. Department of Labor

Occupational Safety and Health Administration
Washington, D.C. 20210

Reply to the Attention of:

Appendix #9

FEB 4 1982

MEMORANDUM FOR: JOHN MARTONIK
DEPUTY DIRECTOR
HEALTH STANDARDS PROGRAMS

THRU: PETER INFANTE

FROM: ELISA BRAVER

SUBJECT: ATMI's New Study on Cotton
Textile Workers

As you requested, I reviewed the new study released by the American Textile Manufacturers Institute. Interpreting the findings of ATMI's study is difficult for the reasons listed below. In my opinion, this study does not contribute to our understanding of cotton-induced disease.

1. ATMI reported that 3669 of 151,188 exposed workers had substantially abnormal pulmonary function (i.e., FEV1 less than 60%). Of these 3669 workers, 670 were "diagnosed as having byssinosis with lung impairment." In designating only workers with FEV1 less than 60% as potential byssinotics, ATMI failed to use the Schilling grading system for byssinosis. Furthermore, the criteria for diagnosing "byssinosis with lung impairment" were not presented.

According to ATMI's figures, 0.4% of all employees were diagnosed with byssinosis and lung impairment. In a subset of 50,945 employees, only 0.6% reported characteristic Monday symptoms. One would expect that the percentage of workers with Monday symptoms would be much higher than the percentage who were diagnosed as having byssinosis with lung impairment (FEV1 less than 60%).

Aside from the problem with the ATMI definition of byssinosis and the puzzling percentages of affected workers, the prevalence of workers with impairment are high such that cotton dust exposure appears to pose a significant health risk. ATMI stated that workers diagnosed as having byssinosis with lung impairment had been exposed to cotton dust before the era of exposure controls and medical surveillance; however, dates of employment and corresponding biological indices were not presented in the report.

2. No comparison data from an unexposed population were collected for the study. Nor did the authors cite the sources for their estimates of the expected prevalence of symptoms and FEV1 declines among unexposed workers.

3. No exposure data were reported. Neither morbidity nor lung function decrements were analyzed by exposure levels.

4. Workers who left employment in the cotton textile mills were not examined. Because workers may leave their jobs because of symptoms, investigators who confine their studies to the active work force may be studying the healthy survivors and workers in early stages of byssinosis. For example, Merchant et al. detected only grades 1/2, 1, and 2 of byssinosis in their study population of active workers. Beck et al. studied workers over age 45, including retired workers, and hence detected more advanced stages of chronic disease.

5. ATMI stated that grades 1/2, 1, and 2 of byssinosis are reversible. Furthermore, they stated that medical surveillance programs combined with job reassignment of affected workers would prevent the development of chronic disease. No data from long-term follow-up of affected workers were presented to substantiate their statement concerning reversibility. Another difficulty is that we do not know if all workers progress through the early stages of byssinosis before developing chronic impairment.

6. The extent to which data collection methods were standardized across plants was not discussed in the ATMI report. Data analysis cannot be meaningful unless lung function testing programs have met specific criteria and unless consistent methods of obtaining medical histories were used. For example, NIOSH recently reviewed the spirometry component of one company's medical surveillance program and found that 63% of shift pulmonary function tests were unacceptable by American Thoracic Society criteria.

7. The ATMI study consists of a compilation of responses to brief questionnaires sent to 142 companies. Medical records and spirograms were not examined by ATMI.

8. ATMI did not specify whether all exposed workers participated in the medical surveillance programs. ATMI also did not report the percentage of workers with pre-shift FEV1 less than 80% of the predicted value and the percentage of workers with post-shift declines in FEV1 of 5% or 200 ml. The OSHA cotton dust standard requires that such workers receive medical examinations every six months rather than once a year. Presumably workers in these categories of lung function may be at greater risk of lung impairment.

Appendix #10

U.S. Department of Labor

Occupational Safety and Health Administration
Washington, D.C. 20210

Reply to the Attention of:

Memorandum To: Thorne G. Auchter
Assistant Secretary

From: John F. Martonik
Health Standards Programs

Subject: National Academy of Sciences
Report on Cotton Dust

This report was prepared by the Committee on Byssinosis of the National Research Council (NRC) at the direction of the National Academy of Sciences (NAS). The U.S. Department of Agriculture (USDA) contracted with the NAS for the study, and the Congress provided $100,000 for its support. The Congressional intent was to commission a study of the quality of the scientific basis for the Cotton Dust Standard and to determine whether the standard was the most appropriate means of protecting workers. Because of limited time and funds, the USDA and NAS agreed to more limited goals. Specifically, the Committee examined the available literature on byssinosis and recommended a number of related research projects. In addition to the Committee report, there is also a minority report that was written by one of the committee members.

The Committee report defines byssinosis as a term applied to one or more acute respiratory symptoms associated with exposure to cotton, flax and hemp dusts. Byssinosis is not used to describe any chronic disease found in these workers. Although the Committee recognizes that a portion of the workers exposed to cotton dust develop irreversible respiratory impairment, it concludes that it has not been clearly and unequivocally established that this impairment results from exposure to cotton dust.

The Committee found that the risk of developing byssinosis varies from job to job, mill to mill and among age groups. Cigarette smoking was found to be an important factor in evaluating the dose response relationship. They found no specific or characteristic visible changes in the lung associated with byssinosis and concluded that pulmonary emphysema is more likely to be the result of cigarette smoking than a consequence of cotton dust exposure. The Committee also found support for the concept that there is more rapid loss of lung function in cotton textile workers than in control populations.

In its recommendations for research, the Committee recommends that a study be undertaken to answer the question of whether and to what extent a chronic effect on airway function is a risk in the textile industry. In addition, the report lists studies that would be of value in determining the agent(s) that cause byssinosis and offers recommendations regarding the collection and use of dusts for the study of byssinosis. Of interest to OSHA, there is a recommendation for a minor change in Appendix D of the Cotton Dust Standard which relates to the apparatus used to measure lung function. Although the Committee does not address the question of the appropriateness of the OSHA standard, it nevertheless recognizes the need for controlling dust in the workplace.

In his minority report, Dr. Kaye Kilburn states that he feels that it is not defensible to deny or to seriously doubt that a chronic disorder exists that is due to exposure to cotton dust. He points to reports of the association of chronic disease and exposure to these dusts which appeared in the literature long before people began to smoke cigarettes. He suggests that the term byssinosis should be used to describe the general disorder which causes shortness of breath and respiratory impairment in cotton textile workers and should not be limited to the acute disease. He also discounts the mill effect and the possibility that sex or race affect risk. He warns against drawing conclusions concerning the pathology of the disease based on the limited studies published so far. Finally, because the mills have been cleaned up and because of the high rate of labor turnover, he characterizes the suggestion that a proper study that would answer the question of the relationship between acute and chronic disease and exposure to cotton dust could be carried out now as "wishful thinking."

Although the Committee report references studies completed since the publication of the Cotton Dust Standard, it does not present any new evidence not previously available from other sources. It presents the conclusions of the Committee on Byssinosis based on their analysis of the available data. In 1978, OSHA decided that there was sufficient scientific evidence to conclude that exposure to cotton dust can cause chronic irreversible lung disease. The Committee reviewed the same evidence available to OSHA and reached a different conclusion. OSHA may decide that its original conclusions were correct, or it may decide that its original conclusions should be reevaluated.

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Appendix #11

Enclosure

Supplemental Comments to OSHA Docket H-052C
submitted by
National Institute for Occupational Safety and Health
Reviewing "Medical Surveillance Data in the Cotton Textile Industry"
by Dr. Harold Imbus

The Occupational Safety and Health Administration (OSHA) has requested a review from the National Institute for Occupational Safety and Health (NIOSH) of the report submitted by the American Textile Manufacturers Institute (ATMI) entitled, "Medical Surveillance Data in the Cotton Textile Industry", by Harold Imbus, M.D., Sc.D. This submission is the second by ATMI, since the announcement of proposed rule changes in February, 1982. The first submission was a very brief account of two surveys, one covering 150,000 workers and the other 50,945 workers. NIOSH's review of the first submission criticized the surveys because of their lack of any discussion of methodology. Although it is not stated directly, this new submission appears to be an expanded report of the second survey mentioned in the first submission, since both start with a base population of 50,945. This second submission is considerable more detailed in its analysis of data than the first, but again its methodology is unclear. For this reason this review will detail the shortcomings of the methodology rather than comment on any of the data presented in the more than 80 tables, figures and exhibits.

Selection

The study population consisted of 50,945 employees from seven ATMI-member companies. Since only workers with detailed pulmonary function data and dust data were analyzed, the final figure for analysis was 41,173. According to a recent (August 8, 1981) New York Times article, ATMI has approximately 200 member companies. It is likely these seven member companies are not representative of all 200 members or of the textile industry as a whole. Although the author does not make any comments regarding the sample selection and its relationship to the industry as a whole, the covering letter by Mr. W. Ray Shockley, Executive Vice-Presendent of ATMI, includes a caution for interpretation that "as a whole, the companies that responded to the Questionnaire have made greater efforts to reduce exposure levels and have achieved lower overall exposures than the companies that did not respond to the Questionnaire". Mr. Shockley suggests, therefore, that the exposure data "presents a more favorable picture . . . than actually obtains in the industry as a whole". If this is true, the corollary to this is that the response data (health effects) also may present a more favorable picture than in the industry as a whole at all gradations of dust exposure. The basic problem is that this survey is compiled from data gathered for compliance purposes, and is not based on a statistically sound strategy which would be essential for making inferences from the study group to the "universe" from which the study group came.

Ascertainment

The collection of the data in a uniform fashion is critical for pooling rmation. ATMI suggests that the data were collected in the manner cribed by OSHA in its Cotton Dust Standard. But this Standard was instituted for compliance purposes and its methods allow for quite a bit of variability in technique, which makes pooling of data gathered from different sources for compliance purposes very difficult. For example:

1) The questionnaire was the standard BMRC, most likely the one detailed in the OSHA standard of June 23, 1978. Were all these questionnaires administered by trained interviewers, or were any self-administered?

2) Was the diagnosis of symptomatic byssinosis provided to the author by each plant for each individual, or did they themselves take the raw data and assign the results to a definition? It is one thing to state that the Schilling's Grades for byssinosis were used, but it is quite another to state exactly which questions from the questionnaire were used to produce the diagnosis. Schilling's Grades include symptoms such as periodic cough, "Monday" shortness of breath, as well as, periodic chest tightness and historical periodic chest tightness. It would have been helpful to know if all or only some of these questions were used in developing the definition by byssinosis, because the sensitivity of the definition can be altered considerably.

3) The report states that all post-shift pulmonary function tests were done between "four to six hours into the workshift, as required by the OSHA Standard". NIOSH's reading of the OSHA Standard is that the post-shift spirometry shall be repeated "no sooner than four hours and no more than 10 hours, after the beginning of the work shift" (Federal Register, June 23, 1978, page 27357). Although it is therefore "legally" acceptable to conduct post-shift examinations between four and six hours after the work-shift has begun, as a scientific matter NIOSH conducts its studies so that post-shift examinations are done after six hours of work, to allow sufficient time for shift drops to occur. Therefore, NIOSH is very concerned that the acute-shift-change data may be inadequate to assess objective response to dust exposures due to the short time between the pre- and post-shift examinations.

4) Researchers know that in large epidemiologic endeavors as more types of data are needed to assess an individual exposure and response, the greater the chance for missing or acquiring technically unacceptable data. For example, in this study one respondent company's data was not used because dust exposure information was not forthcoming. Similar problems can occur with pulmonary function data, especially where both pre- and post-shift information is required. If the 41,173 remaining workers had complete and technically acceptable pulmonary function data, it would have been helpful to know from what larger population of study subjects these individuals came. If the 41,173 include some individuals with technically unacceptable data (pre- or post-shift, or even questionnaire data), then

readers shoud know to what extent data had to be thrown out. And if no data were thrown out, either the companies have perfect technicians, equipment and subjects or some technically unacceptable data have been included in the study.

5) For computing mean FEV_1 shift-changes the data on a subset of 20,127 employees were used. This is fine if we knew that the subset was not markedly different from the initial 41,173 (or for that matter 50,945). In fact, ATMI gives us no demographic breakdown at all (sex, race, geography, age, job tenure) of any of the populations mentioned in the report.

6) It would be helpful to know how the dust exposure levels were assigned to each individual. Are these values a result of one measurement or an average of more than one measurement? Were the individuals assigned dust levels according to the closest vertical elutriator by which they worked or were they given a group or job "mean"? Were the dust levels taken on the exact same day as their pulmonary functions, so that they could be matched directly with response, or were they taken on other days? If they were taken on other days, was the percent cotton content of the dust similar on the different days? Without knowing these answers it is extremely difficult to judge how reliable the dose-response data are.

7) ATMI presents two-years longitudinal data (three data points) on 9,271 from one company. Because of this large number of persons it considers the data to be "meaningful", but it takes more than just large numbers to achieve meaningfulness. For one thing three points of longitudinal pulmonary function data are not generally sufficient to detect trends. In addition, we do not know what the size was of the initial population from which these 9,271 longitudinal "survivors" are derived. We do not know how these "survivors" may have differed demographically from the "non-survivors" or whether their initial pulmonary function results were different from the initial result of the "non-survivors". With such large numbers the cohort could have been divided into age, sex, race, smoking, and job tenure groups, to eliminate or reduce the effects of these characteristics on the FEV_1. The report instead produced regression lines, but we are not told what independent variables are in the regressions.

ATMI explains that "due to the volume of data and the necessity to compile, in a short period of time, a thorough statistical analysis of data was not possible". NIOSH concluded that this second submission by ATMI, despite its volume, sheds no more light upon the health effects of exposure to cotton dust in the textile industry than did the first submission, and should be disregarded by OSHA in its rulemaking effort.

Appendix #12

Review of "Medical Surveillance Data in the Cotton Textile Industry" (Author: Harold R. Imbus), 1982

Elisa Braver
June 30, 1982

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Review of "Medical Surveillance Data in the Cotton Textile Industry"

(Author: Harold R. Imbus), 1982

Dr. Harold Imbus prepared a report analyzing medical surveillance results for 41,173 cotton textile workers and 1,154 synthetic textile workers. Medical surveillance programs conducted by seven companies during 1979-1981 comprised the data base. The American Textile Manufacturers Institute (ATMI) sent questionnaires inquiring about the prevalence of respiratory symptoms and lung function declines to the seven companies and compiled the answers to the questionnaires. Imbus reached the following conclusions from his analysis of the data:

1) Byssinosis prevalence rates were low at dust levels less than 500 ug/m^3;

2) Byssinosis prevalence did not increase among workers exposed to 200-500 ug/m^3 as compared to workers exposed to less than 200 ug/m^3;

3) The prevalence of post-shift declines in FEV1 of 10% or more is not elevated in cotton textile workers as compared to non-textile workers and non-cotton textile workers;

4) The prevalence of pre-shift FEV1 less than 80% was low for cotton textile workers and no dose gradient for pre-shift FEV1 was observed for dust levels less than 500 ug/m^3;

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POLICY.

5) Bronchitis prevalence was not elevated in the cotton textile workers and no dose gradient for bronchitis was observed for dust levels less than 500 ug/m^3;

6) The rate of decline in pre-shift FEV1 over a two year period did not appear to be excessive; and

7) Bronchitis, pre-shift FEV1, and the rate of decline in pre-shift FEV1 over time were primarily related to smoking.

Imbus concluded that the low prevalences of byssinosis, bronchitis, and lung function declines were attributable to the companies' occupational health programs. These programs included environmental controls, selective placement of workers, and medical surveillance and intervention. The environmental controls were such that they exceeded the permissible exposure limits specified in the 1978 OSHA standard for cotton dust.

In its 23 April 1982 submission to OSHA, ATMI cited Imbus's report as evidence in favor of a less stringent cotton dust regulation. Specifically, ATMI contended that a permissible exposure limit of 500 ug/m^3 combined with medical surveillance, respirator use, and transfer of affected employees would provide adequate protection for cotton textile workers (CTW). Also, an action level was advocated by ATMI.

I do not think that Imbus's report can support the breadth of the conclusions reached by him and ATMI. Although the

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findings were encouraging with regard to the low prevalences of respiratory symptoms and lung function declines, the limitations of the study design were such that no inferences can be drawn with any certainty. Problems of the study are discussed below. The major question is whether medical surveillance programs that were not set up for the purpose of determining the etiology and pathogenesis of disease related to cotton dust exposure can provide valid data regarding these two issues. OSHA should seek the opinions of a variety of expert scientists regarding this question and other scientific questions bearing on revision of the cotton dust standard.

1. Medical surveillance data were collected by each company and compiled by ATMI. Hence, there are no assurances that data collection procedures were standardized across companies. We do not know if the pulmonary function testing protocols met American Thoracic Society criteria. Furthermore, the nature of the study population was not specified. What was the participation rate in the surveillance programs of workers exposed to cotton dust? Were workers who had negligible or no exposure to cotton dust included in the programs?

The very low prevalences of byssinosis and bronchitis in Imbus's report may indicate problems with the companies' methods of collecting medical data. Imbus reported overall

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prevalences of 0.68% and 5.81% for byssinosis and bronchitis respectively among CTW. In contrast, NIOSH observed a byssinosis prevalence of 5.4% and a bronchitis prevalence of 15.1% in an unexposed comparison cohort of blue collar workers whose exposure to all types of dusts and lung irritants was non-existent or negligible. Table 81 demonstrates that ATMI consistently found lower bronchitis prevalences than NIOSH did in its comparison cohort across all smoking status categories. Merchant and colleagues also found higher prevalences of byssinosis and bronchitis in their comparison cohort of synthetic/wool textile workers than those reported by Imbus.

One possible factor contributing to low prevalences of respiratory symptoms would be under-reporting on the part of the workers. Workers fearing transfers, loss of their jobs, or forced retirement may conceal symptoms.

NIOSH's blue collar comparison cohort did have a 1.7% prevalence of post-shift FEV1 decline of 10% or greater compared to the 2.9% prevalence in Imbus's CTW cohort. This finding of increased post-shift decline among the CTW relative to NIOSH's comparison cohort may reflect the fact that lung function results are less subject to systematic under-reporting on the part of workers. Given these low prevalences, analysis of dose-response is not very meaningful in either a statistical or biological sense.

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2. This study cannot be interpreted without more information about selective hiring practices and how workers who developed symptoms and lung function declines were handled. If the companies had been consistently transferring, retiring, or firing affected workers in the years before 1979, the examinations during 1979-1981 would not reflect the true prevalence of lung pathology in a population of exposed workers.

3. Another study characteristic which limits the extent to which the study findings can be generalized is that workers who left the mills, retired, or transferred to other jobs were not surveyed. Because employees may quit, retire, or transfer because of health complaints, we do not know if the existing occupational health programs advocated by ATMI are effective methods of protecting employees. Symptoms and lung function declines cannot be assumed to be reversible in the absence of periodic examinations of affected workers whose exposure ceased.

4. As alluded to in comment #1 above, insufficient information about the nature of the CTW's exposures was included in Imbus's report. Exposure characteristics that affect symptom prevalence yet were not described were (a) grades of cotton used and (b) extent to which workers are exposed to mixtures of cotton and synthetics. In fact, Imbus noted that the company with data on both cotton and non-cotton

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workers did have mixed exposures to cotton and synthetics. An estimated 1% of this company's workers received mixed exposures; however, this estimate was based on a subjective impression rather than objective data.

Another problem is that the exposure categories of 0-200 ug/m^3 and over 500 ug/m^3 are confusing. How many persons included in the 0-200 ug/m^3 group were exposed to essentially no cotton dust (Imbus did mention that office workers were surveyed)? How far above 500 ug/m^3 were the dust levels in the over 500 ug/m^3 category? If the dust levels in this category were close to 500 ug/m^3, then exposure differentials between the 200-500 ug/m^3 group and the over 500 ug/m^3 group may have been so slight that no dose-response could have been observed.

Yet another problem is that neither ATMI nor Imbus ascertained whether the exposure and occupational history data were of adequate quality and consistency across plants.

5. Respirator use is a major potential confounding factor for determining dose-response relationships. Based on the short duration of the OSHA standard being in effect, Imbus dismissed the possibility of respirator use confounding the study findings. I think that actual data on respirator use by the companies' workers is necessary to explore this possibility.

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6. Additional problems with this study are as follows.

a. The representativeness of the seven study companies with regard to the working conditions in the American cotton textile industry was not discussed. If work practices, respirator use, hiring practices, grades of cotton, and medical removal protection programs differed much among American textile manufacturers, these medical surveillance results may be pertinent only to the seven companies.

b. Imbus categorized bronchitis as a chronic effect from cotton dust exposure. While this is certainly true, I think that it is important to note that NIOSH found that cotton waste workers with less than two years of exposure had significantly increased bronchitis prevalence compared to cotton waste workers with more than two years of exposure. Thus, bronchitis related to cotton dust exposure can occur shortly after the onset of exposure; it is not confined to long-term workers.

c. Presumably the Schilling grading system for byssinosis was used by the companies. The grades of byssinosis

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detected in this survey should be reported. Also, except for one company, the percentage of workers with post-shift decrements in FEV1 greater than 5% was not reported.

d. Evidence was not given to support Imbus's statement that the few people with byssinosis or post-shift FEV1 declines of 10% or greater were probably sensitized by the higher dust levels of the past.

e. The longitudinal data consist of three examinations over a two year period. This is too short a time period to determine if the rate of lung function loss is accelerated in these workers.

f. The effects of duration of exposure were analyzed only for pre-shift FEV1. Also, the 0 to 5 year category for duration may be too broad because workers who have not quit by their third year of employment may be healthy survivors. For example, NIOSH investigators (Engleberg et al.) found substantially more pathology in short-term cotton waste workers than in long-term cotton waste workers.

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g. For Tables 1 and 13, I attempted to reproduce the chi-square values reported by the author when he was determining the existence of a dose-response. Table 1 displayed the prevalence of byssinosis symptoms by dust level and smoking status and Table 13 displayed the percentage of employees with post-shift FEV1 declines of 10% or greater by dust level and smoking status. Using the $\sum(O-E)^2/E$ formula, I obtained a chi-square value of 4.69 (2 degrees of freedom) for smokers in Table 1, with a p-value less than 0.1. For this same group, Imbus obtained a chi-square of 6.99 with a p-value less than 0.05, which he interpreted as indicating a significant dose-response in smokers. For non-smokers in Table 1, I obtained a chi-square value of 3.48 with a p-value less than 0.1. Imbus stated that there did not appear to be a dose-response in non-smokers.

For Table 13, I obtained chi-square values of 34.64 and 7.95 for smokers and non-smokers respectively, both of which were statistically significant, whereas Imbus obtained chi-square values of 41.16 and 7.79 for the same groups. Imbus's values also were statistically significant. Dr. Imbus should be asked which formula he used to calculate his chi-square values so that these discrepancies between calculations can be explained.

U.S. DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

Appendix #13

CITATION and NOTIFICATION OF PENALTY

Atlanta Area Office
La Vista Perimeter Office Park
Tucker, Georgia 30084

¹ ISSUANCE DATE 12/29/82	² OSHA NUMBER E2327 155
³ REGION 04	⁴ AREA 0280
⁵ PAGE 1 OF 1	

TYPE OF VIOLATION(S)	CITATION NO.
Other	1

INSPECTION DATE:
11/22/82 - 12/02/82

INSPECTION SITE:
Park Street
Lindale, Georgia 31147

TO: West Point Pepperell Textile Mill
and its successors
Park Street
Lindale, Georgia 31147

THE LAW REQUIRES that a copy of this Citation be posted immediately in a prominent place at or near the location of the violation(s) cited below. The Citation must remain posted until the violations cited below have been corrected, or for 3 working days (excluding weekends and Federal holidays) whichever is longer.

PENALTIES ARE DUE WITHIN 15 DAYS OF RECEIPT OF THIS NOTIFICATION UNLESS CONTESTED (See enclosed Booklet)

This Section May Be Detached Before Posting

This citation describes violations of the Occupational Safety and Health Act of 1970. The penalty(ies) listed below are based on these violations. You must correct the violations referred to in this citation by the dates listed below and pay the penalties proposed, unless within 15 working days (excluding weekends and Federal holidays) from your receipt of this citation and penalty you mail a notice of contest to the U.S. Department of Labor Area Office at the address shown above. (See the enclosed booklet which outlines your responsibilities and courses of action and should be read in conjunction with this form.)

⁸ ITEM NUMBER STANDARD, REGULATION OR SECTION OF THE ACT VIOLATED: DESCRIPTION	⁹ DATE BY WHICH VIOLATION MUST BE CORRECTED	¹⁰ PENALTY
The issuance of this citation does not constitute a finding that a violation of the Act has occurred unless there is a failure to contest as provided for in the Act or, if contested, unless the citation is affirmed by the Review Commission. The violations described in this citation are alleged to have occurred on or about the day the inspection was made unless otherwise indicated within the description given below.		
1 29 CFR 1910.1043(h)(1)(iii): Persons other than licensed physicians who administered the pulmonary function testing have not completed a NIOSH approved training course in spirometry, on or about 11/22/82.	7/5/83	$0

⁸ AREA DIRECTOR
David L. Williams - Acting Area Director

¹⁰ $0
TOTAL PENALTY FOR THIS CITATION
Make check or Money Order Payable To "DOL-OSHA" Indicate OSHA No. on Remittance

NOTICE TO EMPLOYEES — The law gives an employee or his representative the opportunity to object to any abatement date set for a violation if he believes the date to be unreasonable. The contest must be mailed to the U.S. Department of Labor Area Office at the address shown above within 15 working days (excluding weekends and Federal holidays) of the receipt by the employer of this citation and penalty.

EMPLOYER DISCRIMINATION UNLAWFUL — The law prohibits discrimination by an employer against an employee for filing a complaint or for exercising any rights under this Act. An employee who believes that he has been discriminated against may file a complaint no later than 30 days after the discrimination with the U.S. Department of Labor Area Office at the address shown above.

EMPLOYER RESPONSIBILITIES AND COURSES OF ACTION — The enclosed booklet outlines employer responsibilities and courses of action and should be read in conjunction with this notification.

CITATION AND NOTIFICATION OF PENALTY

OSHA-2 REV. 9/76

Appendix #14

Occupational Exposure to Cotton Dust (29 CFR 1910.1043; Revision)

Legal Authority

The Occupational Safety and Health Act of 1970, 29 U.S.C. 655.

Reason for Including This Entry

The 1978 standard for occupational exposure to cotton dust could generate annual costs of more than $100 million. The Occupational Safety and Health Administration (OSHA) currently is reviewing this regulation to ensure, among other things, that it is cost effective.

Statement of Problem

Byssinosis is an occupational respiratory disease that occurs in workers who are exposed to cotton dust. In the early stages of the disease, the worker may notice a tightness in the chest on the first day of the work week, which may be accompanied by a measurable decrease in breathing capacity. As the disease progresses, this tightness in the chest is accompanied by breathlessness, and the symptoms then occur on other workdays as well. Eventually, the worker becomes severely affected on every working day with permanent and severe shortness of breath. In the final stages, the disease may lead to permanent disability and death.

In its 1979 "Report to the Congress," the Department of Labor (DOL) estimated that, of the nearly 467,000 production workers in the cotton industry, excluding the cotton ginning sector, which is not covered under the standard, an estimated 68,000 have byssinosis in varying stages. Industry sources have maintained that the number of production workers in these industries is only about 315,000, and some other studies have found lower byssinosis prevalence rates. One prominent study estimated that, in 1973, there were at least 35,000 former textile workers who were permanently disabled as a result of their exposure to cotton dust.

There are a number of reasons for reviewing the standard at this time. First, following publication of the final standard for cotton dust in 1978, a number of industry representatives challenged the standard in court. While the application of the standard to the textile industry was upheld, the courts vacated the standard as it applies to cottonseed oil mills and remanded it to the Agency. The courts also vacated the section on wage retention following medical removal as it applies to the textile industry. OSHA has suspended enforcement of the standard as it applies to cotton classing and warehousing. The standard as it applies to two other sectors of the cotton industry—knitting and waste processing and utilization—is currently under a stay of enforcement. Second, there have been problems with the vertical elutriator, the device that is used to measure cotton dust. Third, control methods and other requirements specified by the standard may not be the most cost-effective methods available. Finally, industry has questioned whether a significant risk of disease can be demonstrated in all of the non-textile sectors. OSHA can resolve, or at least clarify, most of these issues by revising the standard.

If the Agency does not take action at this time, the above-mentioned problems will continue to exist.

Alternatives Under Consideration

The Agency is considering a number of alternative approaches that are not necessarily mutually exclusive, including:

(A) develop internal program directives to clarify some points in the standard;

(B) make some minor technical changes to provisions of the standard;

(C) modify substantially the standard to allow, for example, alternative methods of compliance; or

(D) alter the standard's scope, that is, the industrial segments covered by the standard.

The Agency is not considering changes to the current permissible exposure limits.

Summary of Benefits

Sectors Affected: All establishments that store, process, or otherwise handle cotton lint, cotton linters, cotton yarn, or cotton waste; the workers employed in these industries who are exposed to cotton dust; the industries that provide dust measurement and control technologies; and the consumers of cotton products. Many of the affected industries and individuals are located in the northeastern and southeastern portions of the United States. These potentially affected industries include the following, listed with their Standard Industrial Code numbers: cotton textiles, including yarn manufacturing, weaving, and knitting (2211, 2251, 2252, 2253, 2254, 2257, 2258, 2259, 2271, 2272, 2279, 2281, 2282, 2284, 2298, 2297, 2298, 2299, 3842); cottonseed oil mills (2074); cotton warehouses and compresses (5152); cottonseed delinting (0723); and cotton waste processors and users ([illegible], 2294, 2512, 2515).

The direct benefit OSHA expects from controlling exposure to cotton dust is a reduction in the incidence, prevalence, and severity of byssinosis and other respiratory diseases that result from exposure to cotton dust. At this time OSHA has not yet quantified the benefits attributable to each alternative. However, in the 1979 "Report to the Congress," DOL estimated that if the current standard were fully implemented there would be 23,490 fewer cases of byssinosis after a complete turnover of the work force currently exposed to cotton dust. The report estimated the tangible worker benefits, such as increased earnings and reduced medical costs, at $751 million per year in 1977 dollars.

Indirect benefits include reductions in the burden placed on such public support programs as Medicare and Medicaid, Welfare, and Workers' Compensation. In addition, improved worker health and safer working conditions are likely to reduce employee turnover and raise labor productivity. A major benefit expected from reexamining certain provisions of the current standard is improved cost effectiveness. The DOL's 1979 report to Congress calculated the annual cost per byssinosis case avoided as $6,656, although industry argues that the cost per case would be substantially greater. More cost effective controls will encourage innovations in control and measurement technology while increasing productivity.

Summary of Costs

Sectors Affected: Establishments that store, process, or otherwise handle cotton lint, cotton linters, cotton yarn, or waste cotton.

The direct costs of the regulatory options that OSHA is considering range from minimal to significant because the required level of capital expenditures and operating expenses depend upon which alternative the Agency chooses. At this preliminary stage the Agency has made no specific determinations as to the cost of any of the alternatives. DOL's 1979 study estimated that the cost of the current standard in 1977 dollars would amount to $655 million in capital costs and $[illegible] million in annual operating, maintenance, and energy costs. Industry estimates ranged to over $2 billion in capital costs. However, the recent trend to modernize plants and equipment in the textile industry has probably reduced the amount of new investment that would be required to reduce dust levels.

Summary of Net Benefits

DOL's 1979 report estimated the total annualized costs of the 1978 Cotton Dust Standard at approximately $203 million and the annual benefits at about $751 million. Estimates from other parties differed widely. In the reconsideration of this standard, the Agency will determine if any of the alternative provisions can protect employee health in a more cost-effective manner.

Related Regulations and Action

Internal: The OSHA standard for cotton dust, 29 CFR 1910.1000, Table Z-1, which applies in all industries not covered by the cotton dust standard currently under review (29 CFR 1910.1043).

External: None.

Government Collaboration

OSHA shares information with other government agencies, such as the National Institute for Occupational Safety and Health and the U.S. Department of Agriculture.

Timetable

ANPRM—January 1982.
NPRM—4th Quarter 1982.
Final Rule—Date to be determined.
Final Rule Effective—Date to be determined.
Public Hearing—Date to be determined following publication of NPRM.
Public Comment Period—At least 60 days following publication of ANPRM; also 60 days following publication of NPRM.
Regulatory Impact Analysis—Preliminary published with NPRM; final to be determined.
Regulatory Flexibility Analysis—Combined with Regulatory Impact Analysis, see above.

Available Documents

Occupational Safety and Health Administration Dockets H-062 and H-052B.

The above documents are available for review in the OSHA Docket Office, Room S-6212, U.S. Department of Labor, 200 Constitution Avenue, N.W., Washington, DC. 20210.

Agency Contact

Dr. Robert Beliles, Director
Office of Carcinogen Standards
Occupational Safety and Health Administration
U.S. Department of Labor
200 Constitution Avenue, N.W., Room N-3718
Washington, DC. 20210
(202) 523-7081

DOL–OSHA

OSHA Commercial Diving Operations Standard (29 CFR Part 1910, Subpart T; Revision)

Legal Authority

The Occupational Safety and Health Act of 1970, 29 U.S.C. 655.

Reason for Including This Entry

The Presidential Task Force on Regulatory Relief has designated this standard for review.

Statement of Problem

The standard for Commercial Diving Operations became a Final Rule on July 22, 1977 (42 FR 37650). The standard contains provisions for personnel requirements, general operations procedures, specific operations procedures, equipment procedures and requirements, and recordkeeping.

Since its promulgation, several affected groups have raised concern over certain aspects of the standard. One of these affected groups, the educational/scientific divers (scientific diving performed by educational institutions), object to their inclusion in the standard. They avidly maintain that their operations are significantly different than commerical operations and that self-regulation has eliminated unwarranted risk for their divers. They also state that compliance with Subpart T, which contains the commercial diving operations standard, is impeding scientific progress by constraints that limit their programs. One such constraint is the limit on the depth at which SCUBA (self-contained underwater breathing apparatus) diving can be performed. Another constraint is the estimated cost of meeting the decompression chamber requirements. The educational/scientific divers estimate that the implementation cost per institution would exceed $60,000 initially and $30,000 annually thereafter (1978 dollars).

The exemption issue was the subject of an August 17, 1979 ANPRM (44 FR 48274). The majority of responses to that notice supported exemption.

When the standard was promulgated in 1977, the structure of the commercial diving industry was such that approximately 90 percent of offshore operations were conducted by 22 contractors employing commercial divers. In addition, there were approximately 400 small and medium-sized diving companies whose work was principally confined to relatively shallow harbors and inland waterways.

The commercial diving industry has raised issues concerning the stringent specifications in the standard. These include the decompression chamber requirements and other specifications that negate the use of alternative methods of compliance. For example, the standard requires that a diver depth gauge be read at the dive location but does not allow for other means to indicate diver depth (e.g., sonar). The commercial diving industry believes that the alternative measures would ensure that employees have comparable safety and health. Additionally, compliance with Subpart T requirements (personnel requirements, general operations procedures, specific operations procedures, equipment procedures and requirements, and recordkeeping) may place an economic burden on the small entities within the industry.

For these reasons, OSHA believes that Subpart T should be revised by replacing the existing specification-oriented standard, to the greatest extent feasible, with a performance-oriented standard, where criteria are set but ways of meeting that criteria are not specified.

Alternatives Under Consideration

Alternative (A) would be to take no action, leaving the present standard as it is. If no action is taken, the standard will continue to be financially burdensome and will not allow the most cost-effective alternative means of compliance. Additionally, the educational/scientific diving community will continue to be hampered by their inclusion under the standard.

Alternative (B) is to revise only those provisions that are creating problems for the industry. Educational/scientific diving operations (scientific diving performed by educational institutions) could be exempted in this alternative. An advantage to this alternative is that provisions identified by the industry can be revised and the educational/scientific diving community will benefit by an exemption. The disadvantage of this alternative is that it may be almost as time consuming as a complete evaluation and revision of the entire standard. Moreover, an inadequate review may result if we do not examine the entire standard.

Alternative (C) entails a complete revision of Subpart T after careful evaluation of the entire standard. The revised standard would be performance-oriented, to the greatest extent feasible, permitting the industry to use alternate methods of compliance. A performance-

Science 11/5/82

Appendix #15

Letters

Los Alamos: No Reason to "Rail"

I read with interest William J. Broad's article "Los Alamos: The winds of mutiny" (News and Comment, 8 Oct., p. 134). Having never met or discussed the matter with Broad, I am bemused as to how he can state that I "railed in private" about anything. The "knights" of my round table ran their respective kingdoms in a fashion which made me proud to be associated with them, especially R. N. Thorn, D. P. McDougall, R. Taschek, C. Browne, and R. Schreiber. Those who have been associated with me know that I may "rail," but never privately and never about Los Alamos. Los Alamos is among the best scientific laboratories in the world and one of our nation's finest assets. One does not "rail" about such institutions.

HAROLD M. AGNEW

General Atomic Company,
Post Office Box 81608,
San Diego, California 92138

A firsthand account of Agnew's sentiments about Los Alamos, rather than the statements of former associates, would have simplified the reporting of the article and would have been possible if Agnew had returned my calls to General Atomic. Unfortunately, he did not.

—WILLIAM J. BROAD

Cotton Dust Regulations

There are several aspects of Marjorie Sun's piece on the review of the Occupational Safety and Health Administration's (OSHA) cotton dust standard (News and Comment, 24 Sept., p. 1232) on which I would like to comment.

First, Sun states that the National Academy of Sciences (NAS) report on byssinosis (*1*), "failed to state clearly that the disease, as a chronic ailment, is directly related to cotton dust exposure." The committee did not, however, conclude that chronic lung disease is not directly related to cotton dust exposure. We said in our report, "If a functionally important chronic airway disorder results from cotton textile dust exposure, it is important to determine the relationship, if any, between the acute response and a chronic disease. Evidence suggests that emphysema is not associated with exposure to cotton dust, although chronic bronchitis and bronchiolitis probably are associated. The existing evidence is incomplete, and the presumed relationships between acute and chronic disease and the latter's specific relationship to cotton dust remain to be resolved. A link between the acute response and a chronic response, although biologically plausible and often suggested, has not been satisfactorily demonstrated to date, and must be confirmed by longitudinal studies." These conclusions were well thought out and balanced in reflecting the scientific literature. They suggest the limitations of the scientific database, limitations that currently exist regardless of the protestations of special interest groups.

I and other investigators in our group are conducting a large 5-year longitudinal study of textile workers funded by the National Institutes of Health (NIH). It is our expectation that the answers to a number of these unresolved issues will result. Personally, I have written and stated publicly that a chronic airways effect may very well be related to cotton dust exposure; we simply are not sure based on the information available (*2*). I fail to understand why Jerome Kleinerman, chairman of the NAS committee, or I, who chaired the epidemiology subcommittee of that group, was not contacted by Sun so that we could respond to the charges of the critics of the NAS report.

With regard to the implications of bias suggested by Frumin of the Textile Worker's Union, I might point out the following. The "lengthy study" that my colleagues and I performed in cotton textile mills that was funded by the American Institute of Textile Manufacturers several years ago was, in fact, completed in 6 months and represented less than 10 percent of the total research support of my unit during that year. Validity of research results depends primarily on the credibility of the investigators, not on the funding source. It is odd that partial industry support of the study by Kilburn and Merchant fails to concern Frumin. In fact, while more than three-quarters of our funding comes from NIH, in the investigation of occupational lung diseases it is logical from time to time to obtain support from both industry and labor, as has been the case in our unit.

In our published study (*3*), we reported a dust dose–byssinosis relationship, as well as a relationship between exposure and across-shift decline in ventilatory function, as has been found by other investigators. We pointed out, however, that, while this relationship emerges when mill data are pooled, there are factors within the mill that also have a substantial influence on variability in the biologic responses studied. This important point has been widely accepted and may very well explain spurious findings by investigators who have not looked at variability between mills, including some of those mentioned in Sun's article. It may be of interest that, based on this and other work performed in our unit (*4*), I testified at the request of OSHA at the public hearings and supported the 1978 cotton dust standard.

Respiratory health effects associated with cotton dust exposure, in common with many occupational and environmental issues, become confounded by social and economic factors which, while of obvious importance, do not deal directly with the strength (or lack of it) of the scientific evidence. While public policy requires consideration of all of these aspects, it is not necessary (or desirable) to bend the scientific data base in order to accomplish a responsible approach to occupational health problems. Ultimately, it is good science resulting in increasing knowledge that provides a sound basis for public policy addressing preservation of worker health.

HANS WEILL

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References

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A response to critics of the NAS report was provided by Daniel Weiss, staff officer, Commission on Life Sciences, National Research Council. Weiss's comments were reported in the article.

—MARJORIE SUN

the chill in relations between the Soviet Union and the United States.

The time may well be ripe for a bold initiative on our part. Specifically I have in mind an invitation to the Soviet Union to join the United States in a massive 5-year system of exchange visits of 1 to 3 months by laymen. These would include seminars on the implications of nuclear war. I suggest that the United States propose to the Soviet Union that this scheme be supported by a 3 percent reduction in the military budgets of both countries. Clearly there would be enormous diplomatic, political, logistic, and linguistic problems, but these would be trivial in comparison with the consequences of a nuclear war.

DONALD S. FARNER
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Environmental Stress on Plants

J. S. Boyer (29 Oct., p. 443) convincingly demonstrates that environmental stresses play a very large role in limiting agricultural productivity. Improvements in the adaptation of most plants to stressful environmental conditions could demonstrably increase productivity, and do so in a benign, environmentally sound fashion. Yet while the Competitive Research Grants Program of the U.S. Department of Agriculture supports various research areas including biological stress, that is, stress imposed on organisms by other organisms, research on environmental stress is not supported by the program. Boyer's article constitutes a powerful argument for including research on environmental stress in the Department's Competitive Research Grants Program; it should be heeded.

EMANUEL EPSTEIN
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Cotton Dust Research

We protest the implication in Marjorie Sun's article "OSHA reviewing cotton dust standards" (News and Comment, 24 Sept., p. 1232) that our scientific views are influenced by the source of our funding and express our deep concern that Sun's article does not address the scientific merits of the questions at issue.

The charge is made by a union official that the School of Textiles at North Carolina State University receives "hefty support from industry." In fact, more than 80 percent of our support comes from state appropriations and outside grants and contracts from nonindustrial sources. Of the funds we receive from industry, 40 percent comes from an endowed foundation. The industrial support that we do receive is fairly well balanced between the synthetic fiber and the primary textile industries. The former stands to gain by a costly cotton dust standard, while cotton constitutes less than one-fourth of the fiber used in the primary industry. Thus, even if our views were influenced by our source of industrial support, it is not clear which side of the issue we should favor.

Historically, our school has been involved not only in research aimed at technological and scientific advancement of textiles but also in creating better working conditions for employees in the industry. There are more than 300,000 employees in textile-related jobs in North Carolina alone, many of whom are working in cotton plants. As the only textile school in the North Carolina University system, we have strong obligations and commitments to the citizens of North Carolina as well as to the industry. We are proud of our efforts in meeting these responsibilities.

Sun's article deals extensively with the alleged biases of four members of the National Academy of Sciences (NAS) panel. These allegations were made by a union official and by researchers whose published work strongly commits them to the position that exposure to cotton dust represents a proven and extreme chronic health risk. We resent the fact that our integrity is questioned and that the biases and potential biases of those supporting positions different from that of the NAS committee were not examined.

In addition, Sun does not discuss the composition of the NAS panel. The article merely repeats the charge "that the 12-member panel was not balanced in scientific expertise." In fact, nine of the 12 panel members were experienced in medical, chemical, physical, and/or engineering aspects of cotton dust research, and the other three were distinguished scientists in relevant fields but with no direct prior experience in cotton dust research (an internist/immunologist, an immunologist/pathologist, and a lung pathologist). The committee was chaired by one of these three, and the final report was approved by 11 of the 12 panel members. These three panel members were able to assess the relevant data and papers on their merits, free of any preconceived opinions. What better representation could be selected to enable a review panel to objectively evaluate conclusions already "cast in concrete"? This approach contrasts sharply with that of the World Health Organization (WHO) panel, which was chaired by a scientist who holds a well-established position on chronic byssinosis. We are also disturbed by the fact that conclusions from the WHO study, a document that has not yet been released to the public, are cited in Sun's article.

For these reasons, we view the News and Comment article to be less than objective.

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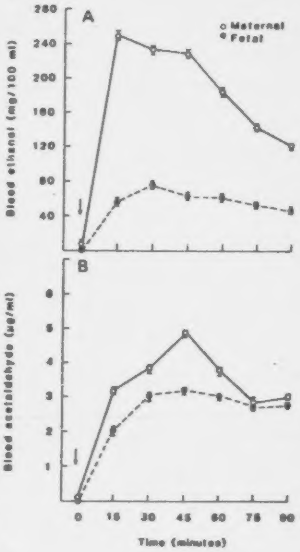
Information about sources of support was provided by William E. Smith, assistant dean of North Carolina State University's School of Textiles. He did not disagree with the characterization that the school received hefty support from industry. In his own words, he described industry funding as "considerable."

—MARJORIE SUN

Erratum: In the report "Maternal ethanol exposure induces transient impairment of umbilical circulation and fetal hypoxia in monkeys" by A. B. Mukherjee and G. D. Hodgen (12 Nov., p. 700), the ordinates for parts A and B of figure 2 (p. 701) were reversed. Correctly labeled parts A and B are printed below.



policy might be improved: in addition to broadening the indirect cost base, it was suggested that cost-sharing formulas should favor maintenance commitments over acquisition costs.

Technical understanding should be required of users. For a variety of reasons, from raising performance standards to reducing casual maintenance costs, it is wise to limit access to users who have completed a course (formal or not) in instrumental methods and maintenance.

Responsibility for an instrument should be assigned to an individual with an active, vital interest in its performance. Committees or uninterested individuals make poor custodians.

Department chairpersons, and others, should consider alternative facilities before attempting to establish any in-house laboratory. There are many accessible instruments on campus and off. One way to encourage their use is to hold an annual, campus-wide or wider, instrument fair or awareness course, in which prospective users and laboratory directors get together.

The group also made some specific tips: limit the number of manufacturers so as to cut down on the number of test instruments, spare parts, and service calls; protect instruments from power and other system failures; and follow a regular schedule for parts replacement and servicing.

Laboratory maintenance is not a glamorous or exciting subject, but its importance is hard to overstate. The fact is that, for the remainder of our professional lives, we are going to take better care of our laboratories, or many of us will do without.

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Cotton Dust Standard

Hans Weill states in his letter of 5 November (p. 518) that his 1977 testimony at the Occupational Safety and Health Administration (OSHA) hearing on its then proposed cotton dust standard "supported the 1978 [OSHA] cotton dust standard." In fact, Weill's testimony in 1977 did not support the 200 micrograms (μg) per cubic meter (m^3) standard adopted by OSHA the following year. Indeed, his interpretation of the data collected at three cotton mills for the industry-funded study gave support to those who found the OSHA standard excessively stringent. Weill reported finding a "mill effect," which he characterized as "an important confounding variable in prevalence studies" (*1*, p. 3). He stated that, when the exposure and health effects data were analyzed separately for each mill, he "could not demonstrate an effect of current dust exposure beyond the mill effect" (*1*, p. 2). This was in sharp contrast to the highly reliable linear dose-response relationship found by Merchant *et al.* (*2*), which served as the basis for the exposure limit chosen by OSHA.

At the request of the Amalgamated Clothing and Textile Workers Union, John Peters of the Harvard School of Public Health (*3*) reviewed the raw data collected by Weill and evaluated Weill's conclusions. Peters found that there were several factors in the study which made "drawing conclusions by comparing mills highly questionable." He noted that Weill's choice of three exposure categories served to mask the effect of very high exposures occurring in one plant. Peters demonstrated that the addition of a fourth gradient of exposure to the analysis "could explain the so-called mill effect . . . [and] confirm the data generated by others that cotton dust at levels of 0.2 mg/m^3 and greater produces health effects that should be prevented" (*3*).

Weill testified in 1977 that a "level of cotton dust exposure which carries an acceptably low risk of byssinosis will fall between 200 μg and 500 μg per cubic meter" (*1*, p. 2). This was consistent with the industry's position in favor of a 500 $\mu g/m^3$ limit. According to Merchant's dose-response curve (*2*), this would have doubled the risk from 12.7 percent at 200 μg to 26 percent at 500 μg.

Weill also states in his letter that his finding of a "mill effect" has been "widely accepted." Yet OSHA, in adopting the 200-μg limit in 1978, rejected the "mill effect" and adopted Peters' supplemental analysis of the raw data as indicating a correlation between exposure and adverse health effects.

In their 3 December letter (p. 951), S. P. Hersh and R. E. Fornes of North Carolina State University (NCSU) also describe themselves as unbiased members of the National Academy of Sciences (NAS) panel. Notwithstanding the issue of financial support, Hersh in fact testified (*5*) for the textile industry at the 1977 OSHA hearing supporting a dust limit (in weaving) of 900 to 1200 $\mu g/m^3$, consistent with the industry's choice of 100 $\mu g/m^3$. A 1200 $\mu g/m^3$ limit would produce a byssinosis prevalence rate of 14.6 percent, according to Merchant (*2*), or more than double the rate produced at the dust limit eventually chosen by OSHA (less than 7 percent). When interviewed, I referred to this testimony but was only quoted regarding issues of financial support. Taken out of context, this latter quote implied a general criticism of NCSU that is certainly not appropriate. On the contrary, various members of the NCSU faculty have made substantial contributions toward the solution to occupational hazards in the textile industry, for which textile workers are grateful.

On the larger issue of the NAS panel's conclusion that the link between dust exposure and chronic lung disease is yet to be confirmed, I believe the panel misinterpreted a number of studies demonstrating the chronic effects of exposure to cotton dust. The panel dismissed the work of Bouhuys and his co-workers Beck and Schachter, whose studies showing the progressive loss of lung function among retired cotton textile workers were brought to the panel's attention. These results have once again been reported (*6*) and were characterized in an editorial by Epler as "contributing valuable information for the kind of precise definition of occupational lung diseases needed by clinicians and administrative agencies" (*7*). It is not surprising, therefore, that the NAS report's conclusions were rejected not only by panel member Kilburn (in his minority report), and by Merchant, Schilling, Beck, Schachter, and Wegman [as reported by Marjorie Sun (News and Comment, 24 Sept. 1982, p. 1232)], but also, according to Frank Press' introductory letter, by "some of the reviewers of the report" with whom the "authoring Committee [was] not able to resolve completely their differences of opinion."

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2. J. A. Merchant, J. C. Lumsden, K. H. Kilburn, W. M. O'Fallon, J. R. Ujda, V. H. Germino, Jr., J. H. Hamilton, *J. Occup. Med.* 15, 222 (1973).
3. J. M. Peters, personal communication to George Perkel, 8 June 1977 (OSHA Hearing Record, Exhibit No. 143-A, 1977), p. 7.
4. Occupational Safety and Health Administration, U.S. Department of Labor, *Fed. Regist.* 43, 27356 (23 June 1978).
5. S. P. Hersh, "Statement of Solomon P. Hersh . . . before the public hearing concerning the proposed change in the OSHA Cotton Dust Standard" (OSHA Hearing Record, Exhibit No. 58, 27 April 1977).
6. G. Beck, N. F. Schachter, L. Maunder, R. S. F. Schilling, *Ann. Intern. Med.* 97, 645 (1982).
7. G. Epler, *ibid.*, p. 772.

January 28, 1983

Appendix #16 The Editor's Page

A survey of bartenders

Significant figures on rate of byssinosis get lost in what appears to be a self-serving survey.

One of the fundamentals of good public relations is that when you try to influence public opinion you have documentation. So far, so good. The American Textile Mfrs. Institute's new survey on byssinosis is documented by reports from 142 firms with an official accounting note from Ernst & Whinney.

The next step is to make sure the documentation is accurate and believable. That's where this survey falls short. The industry is using and releasing its own statistics to document the number of byssinotics in textile plants. Although they are statistics based on tests required by the standard and taken in accordance with government practices.

Even if this documentation is correct and accurate—and no one has yet put forth any concrete knowledge that it is not—the industry is asking the media, the medical community and the world that knows little about textiles but what it reads to have considerable faith in its words. Quips one textile observer: "It's like surveying a bunch of bartenders and asking them how they feel about repeal of prohibition."

What the industry chances is a spate of criticism, naturally from its opposition, but also from others who don't know the industry. That could leave textiles with another bunch of negative headlines, though hopefully among some roses.

The only report to come from Atlanta, however, bristled with thorns. The Atlanta Constitution, out of its Washington Bureau, ran a headline saying "Brown Lung survey criticized." (Intersting news in a state facing new byssinosis compensation laws.) And the lead of the story says: "Washington: A textile-industry claim this week that 'Brown Lung disease' among cotton mill workers is 'significantly lower' than government estimates was condemned Tuesday by government, union and medical officials."

Word in industry says the statistics are significant and the most up-to-date offered. Yet the way these numbers are presented still gives an outward look of being self-serving. . . and all the folks aren't buying them. What's needed is a better way to get the numbers across. Let's toss the ball in OSHA's court.

Up to OSHA this time

The statistics reported by ATMI can be collected in a similar manner by OSHA, with one big difference. OSHA under law, has the right to come into plants and disprove the numbers/records or accept them. An OSHA verification would certainly stifle any self-serving criticism of ATMI and put everyone's attention back where it should be: getting on with plans to reduce dust and eliminate the problem.

L. A. Christiansen

(A copy of this page has been sent to Thorne G. Auchter, Assistant Secretary of Labor, Occupational Safety & Health Administration. Replies invited.)

Textile World *February 1982*

Appendix #17

The Right To Breathe

Where did it go and how did I lose it?

Brown Lung Disease Among America's Textile Workers

Published by the Amalgamated Clothing and Textile Workers Union, AFL-CIO, CLC

QUIET
SICKNESS

The Right To Breathe

Where did it go and how did I lose it?

Cover: Lucy Taylor worked in the textile mills for 35 years until she was forced to retire at the age of 49 because of brown lung. An ardent activist for the union and the BLA, she died in October, 1980.

Opposite: A sign that appears throughout the old mill villages surrounding Greenville, South Carolina.

[illegible]

Monday morning at seven, Joe Willis* reported for work in the carding room of the North Carolina textile mill where he had been employed for almost 20 years.

Shortly after getting to work he was coughing again and his breathing sounded more like a whistle. The pains in his chest started. He'd tried to take it easy over the weekend and had been doing so for the past year or so. When it first began (he didn't remember how long ago), he had been able to get through his five-day shift. Rest over the weekend seemed to ease his cough and the pains.

But in the last few years he had, more often than not, only managed four days a week and now and again for the past couple of months he was working only three days a week. He was not able to work five days without total and painful exhaustion.

He did not know it—nobody had told him, not the plant doctor, the private doctor in town, nor the doctor he had seen up in Raleigh—but he was a victim of "brown lung," a name commonly applied to a chronic respiratory disease, medically known as byssinosis.

Joe's symptoms were classic. Shortness of breath, tightness of the chest and coughing upon returning to work on Monday morning.

Later, the symptoms which had first appeared as a Monday morning problem extended to other work days and became more severe.

150,000 Victims

At least 150,000 of 800,000 textile workers in the United States suffer from some degree of brown lung. Thirty-five thousand are totally disabled.

Independent scientists have studied the health of workers in most of the operations of cotton textile mills, and have found the following high rates of brown lung disease:

OPERATION	BYSSINOSIS RATE
Preparation (such as carding)	25-38%
Spinning, winding and twisting	9-20%
Weaving	10-15%

---

*The name Joe Willis is fictional. He is a composite of thousands of people employed in the textile industry who work with cotton, flax or hemp. This account of the experiences of "brown lung" victims is based on documented facts.

What causes byssinosis? The exact agent has not been identified but it is known that the disease is associated with cotton dust. The cause may be found in the parts of leaves of the cotton plant which are packed into the bale of harvested cotton fibers. The more dust there is in the workroom, the more likely it is for the workers to come down with brown lung disease.

Get The Connection?

The horror of this is that workers did not connect the pain in their chests, the coughing, the shortness of breath with the air they breathe on the job. Many workers are still not aware of the connection. They can't smell what is causing the disease. They can't feel it. They can't see it—even if they can see clouds of cotton lint in the air. The dust that damages the lungs is too small to be seen by the naked eye.

Joe knew of none of the disease statistics associated with his job. True, he had seen friends move out of town, often to another textile mill, because the company wouldn't transfer them. He also knew that many friends had retired early on Social Security Disability. Still there was no connection in his mind with his job; there were no warning signs on the walls; nobody ever discussed it over the weekend other than groaning about having to go back to work on Monday, and certainly nobody had ever applied for Workers' Compensation.

The Doctors' Mistake

How could Joe and his fellow textile workers know they were suffering from an industrial disease—a disease caused by exposure to cotton dust on the job? The medical profession in this country has been negligent. Studies of cotton mill workers by the United States Public Health Service in 1933 had used the wrong diagnostic procedures. They reached the mistaken conclusion that cotton dust disease did not exist here.

Other countries had long recognized byssinosis as a serious problem. In the late 1800's and the turn of the century many medical studies were conducted abroad.

In Great Britain a Byssinosis Act was adopted as long ago as 1940, and workers have been paid Workers' Compensation upon early retirement for the past four decades.

Not until a British team came to this country in 1961 to conduct scientific studies in two cotton mills did the problem again receive serious consideration. The British research team wanted to find out why that country had such a serious problem and we did not. They found that we did have the problem, but it had not been properly studied.

At this point the Public Health Service decided, over strong industry pressure, to re-evaluate the situation.

Industry Suppresses Investigation

The employers tried to suppress the investigation. A doctor commissioned by the Public Health Service to conduct research among cotton mill workers was denied access to the mills as a result of a boycott organized by the Georgia Textile Manufacturers Association. He had to do his research with cotton mill workers at the United States Federal Prison in Atlanta.

In 1968 the Health Service concluded that the 1933 study had been in error. "We have had the comfortable illusion that byssinosis was not a threat to American workers," the Health Service reported. "Now . . . we find this is far from the truth. Recent studies have shown a high incidence of byssinosis among textile workers here in the United States . . . Byssinosis is a serious disease."

> **"The denim that made blue jeans for you has made brown lung for us."**
>
> *Linnie Mae Bass, 20 years at Burlington Industries, testifying at OSHA hearings on the proposed cotton dust standard, April, 1977.*

What happened to workers like Joe Willis, who had come down with brown lung disease but were never told by a doctor that they had it?

The plant doctor told him he had bronchitis and advised him to use a mask, which makes breathing for a brown lung victim even more difficult; and if it became too painful, to apply for Social Security Disability Benefits.

Doctors, Industry In Cahoots

The doctor in town may or may not have known what Joe was suffering from. The doctors in such towns have frequently entered into an unspoken conspiracy with textile management. Instead of telling mill

Brown Lung Association member protests.

workers that they have byssinosis, doctors refer to their condition as bronchitis, asthma or emphysema. They neglect to tell workers that these are the lung conditions which result from byssinosis. In other words, that they are victims of brown lung disease.

The textile industry has a big stake in suppressing the facts about brown lung. If the victims were able to collect the Workers' Compensation they are entitled to, it would cost the industry hundreds of millions of dollars in increased insurance premiums. It would cost additional hundreds of millions to clean up the mills in order to prevent future cases of brown lung.

'A Thing Thought Up'

So the industry had adopted the "stonewalling" tactics made famous by Richard Nixon in the Watergate affair. First the industry denied the existence of brown lung. An article in a textile trade publication in mid-1969 reads, in part:

> We are particularly intrigued by the term "byssinosis", a thing thought up by venal doctors who attended last year's International Labor Organization meeting in Africa, where inferior races are bound to be affected by new diseases more superior people defeated years ago.

Then the industry sought to prevent investigation by independent scientists into the prevalence of the disease. When this failed, it launched an industry-financed research project. It hired the Industrial Health Foundation, a pro-management group specializing in research designed to whitewash hazardous conditions in industry. Even this group found it impossible to ignore the existence of byssinosis among textile workers. It reported that more than one in five employees in preparation departments were suffering from brown lung disease.

Nixon and NIOSH

The Amalgamated Clothing and Textile Workers Union started a campaign in 1972 to force the industry to clean up the mills. The passage of the federal Occupational Safety and Health Act in 1970 had given the Occupational Safety and Health Administration (OSHA) the responsibility of setting standards to protect workers from hazards like cotton dust. OSHA started out by adopting the weak standard that had been in existence under previous laws. The Union then demanded that the cotton dust standard be strengthened. Under the Nixon administration OSHA cooperated with the industry by delaying action on the Union's request. This was part of the Nixon re-election effort to use OSHA as a sales point for fund raising among employers.

After two years of delay a report was issued in 1974 by the National Institute for Occupational Safety and Health (NIOSH) which reviewed the scientific evidence and recommended a strict standard of less than 0.2 milligrams of cotton dust per cubic meter of air. Still OSHA failed to act. In January 1975 the Union filed a petition with OSHA for a strict standard based on the NIOSH report.

When OSHA continued to drag its feet, ACTWU filed a lawsuit in federal court to force the Secretary of Labor to move on the Union's petition. As a result, OSHA announced a proposal for a new standard at the end of 1976. It held hearings on the proposal in 1977.

The Union brought workers to Washington, D.C. to testify on the need for an effective standard.

Where Did My Breath Go?

W. H. Gregory, chaplain of Local 1391T, Greensboro, N.C., testified that "there are many folks who have been forced by brown lung to come out of the Cone

"I have been told that I have lost 21% of my breathing. I would like to know where it went and how I lost it."

W.H. Gregory, Chaplain, ACTWU Local 1391T, Greensboro, N.C. testifying at OSHA hearings on the proposed cotton dust standard, April 1977.

Mills since I have been there . . . there are going to be more sick folks coming out of this mill, maybe even I. I have been told that I have lost 21% of my breathing. I would like to know where it went and how I lost it."

Workers told of the intolerable burden of wearing respirators at work, which management tried to impose on them instead of cleaning up the mills. Frank Davis, a weaving department worker at Canton Textile Mills, Canton, Ga., and a member of Local 1604's negotiating committee, testified that wearing a respirator "is like wearing a heater over your face. When you breathe, you rebreathe your hot air again before it can get out. And after just a few minutes, the filter gets stopped up. It just cuts your breath off and it chokes you." Members of the Brown Lung Association also testified on the crippling effects of cotton dust on their health.

More Industry Evasions

Textile industry spokesmen argued that it was not necessary to reduce dust levels. If any workers suffered breathing difficulties, they could be fitted with respirators to filter out the dust! Management didn't explain how workers with breathing difficulties would benefit from wearing something which makes it even more difficult to breathe. Indeed, an expert on industrial uses of respirators who was presented as a witness by the Union (William A. Burgess of the Harvard School of Public Health) demonstrated that respirators could not be

[illegible]

relied on to protect textile workers from the effects of exposure to cotton dust. Respirators are of only limited use since they cannot be worn for more than a few hours at a time.

The industry also claimed that reducing dust levels was unnecessary because annual medical examinations of workers by company doctors would enable management to find out which workers were being affected by the dust and could be transferred to less dusty jobs. This "solution" was shown up by workers who testified on the biased nature of company medical exams and the failure of company doctors to inform workers of the results.

Ruth Knowles, president of Local 1716, Lindale, Ga., told of the medical exams given by West Point-Pepperell, Inc. Even though a great number of the workers did poorly on their lung tests, only 3 of the 1,400 workers employed were offered transfers by the company. And these were never "told anything about any disease called brown lung or byssinosis by any company doctor or nurse."

Rev. Lloyd Goss, a member of Local 1604, Canton, Ga., testified to his severe breathing problems. When he asked the company doctor, "Doc, what do you think caused this?" he was told, "probably would be coal dust." But Goss had never been inside a coal mine!

Archie Campbell, president of Local 254T, Columbia, S.C., summed up the plight of the workers when he testified as follows:

> In my plant (M. Lowenstein & Sons, Inc.) in the last two or three years, I have seen people go out with these breathing problems. Their health is ruined for life. I fail to see that the cost makes any difference when it is at the expense of these employees' health.

Brown Lung Is Preventable

The Union demonstrated to OSHA that brown lung disease can be prevented. There is no need for this health hazard to go on damaging the lungs of textile workers. The mills *can* be cleaned up. The technology has been developed. The equipment is available. All that is needed is a strict OSHA standard limiting the amount of dust to which workers can be exposed. And effective enforcement—rules requiring the industry to sample the air and to report the amount of dust to employees and their union representatives.

Workers and their representatives should have the right to observe the air sampling and to make sure that safe standards are lived up to. The worker is entitled to his job

"When I got to the hospital the doctor told me, Your lung is full of fiber. Get out of that mill or make your funeral arrangements."

Lonnie Moore, in meeting between BLA members and the South Carolina Congressional delegation, April, 1977.

without risking his life or health.

New OSHA Standard

In 1978 OSHA issued a new cotton dust standard. It did not contain all the protections the Union had demanded, but it reduced the amount of dust permitted in the mills and it gave workers and their representatives the right to police the new limits. But the industry appealed the standard to the courts. At the industry's request, a stay was issued by the court which prevented the new standard from going into effect until 1980.

The United States Court of Appeals for the District of Columbia rejected the industry's claim that a strict limit on dust levels was not necessary or feasible. "We find that the health risk posed by cotton dust warranted agency (OSHA) action," the court ruled, "and the final standard . . . is technologically and economically feasible for the textile industry. . . ."

As a result, the new OSHA standard went into effect in March 1980 in spite of industry's appeal to the Supreme Court (still pending at this writing.)

Four More Years?

The Union called a national conference on cotton dust in Charlotte, N.C., to plan for worker action to assure strict enforcement of the new standard. Workers from five southern states and Maine and Minnesota, representing thousands of cotton mill workers, discussed the provisions of the OSHA standard and decided to press through collective bargaining to achieve prompt and effective protection for workers exposed to cotton dust.

Hubert West, confined to his home for 19 years because of brown lung, was denied Workers' Compensation by the state of North Carolina.

Under the standard the industry will be permitted four years to develop plans for reducing dust to safe levels. In the meantime textile workers will continue to be exposed to the risk of brown lung disease unless they are protected through medical examinations and transfer rights. The Union has demanded that workers be given the right to be examined by a doctor of their choice and that any disputes between the worker's doctor and the company's doctor be resolved by arbitration. In addition, sick workers would have the right to transfer to a lower-dust area with no loss of pay or other benefits.

The Union has succeeded in achieving such transfer rights in a number of mills. It continues the struggle to assure textile workers the opportunity to work under conditions which do not expose them to brown lung disease.

Compensation System Rigged

What happens to textile workers victimized by this dread disease? And what will happen to the many additional workers who will suffer from brown lung as a result of the stalling tactics of the industry.

Only in recent years with the aid of the Brown Lung Association—a group supported by churches and unions—have workers affected by the disease begun to file for compensation. Of the 35,000 cases of disabled brown lung victims, only some 400 have received compensation. A worker like the fictional Joe Willis, living in a predominantly one-industry town, working in a non-union plant, unaware of his condition—and he exists by the tens of thousands—will become so ill that his only recourse will be Social Security Disability or Welfare. He has little chance of finding out that he has an industrial disease and even less chance of collecting Workers' Compensation.

The plain fact is that the state system of Workers' Compensation is rigged against the victims of industrial disease. They have the heavy burden of proving not only that they are totally disabled, but that their disability comes from conditions they were exposed to on the job.

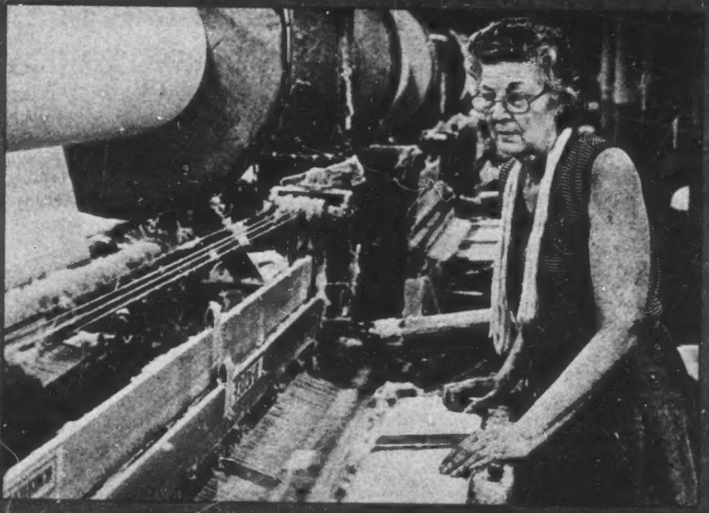
In face of the conspiracy of silence engaged in by the industry and the company doctors, disabled workers must battle against great odds to overcome the obstacles to their claims for compensation. They have to contend with ignorance and timidity of doctors in textile mill towns and the arrogance of the insurance companies. The largest carrier for the textile industry is Liberty Mutual; its delaying tactics are notorious. A worker may have to wait anywhere from one to three years to have a case settled. He or she may have to be examined three or four times before the insurance company will make an offer. And the offer will be only a small fraction of what the worker is entitled to.

"I guess they are stalling and stalling until he dies so they won't have to pay him a penny."

Dora Faircloth, speaking of her husband's fight to win compensation for his brown lung disability from The Liberty Mutual Insurance Company.

How Long, Oh Lord?

The victims of brown lung disease are poor people. They cannot wait for years for the compensation they need to live on.



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Many have died while waiting for their claims to be acted upon. It is to the advantage of the industry and its insurance carriers to delay and discourage the claimants so they will accept a pittance. This way the industry saves money on insurance premiums and the insurance companies enjoy a tidy profit. The burden of payment to the disabled falls on the general public in the form of Social Security taxes, and the amount of benefits received by the victims is barely enough to make ends meet.

These conditions cry out for action. Textile workers have had to endure unhealthy working conditions for too long. They must not be required to give up their breath to make a living. They are entitled to an environment free of the hazard of brown lung disease. And those who have been victimized by this disease surely have the right to prompt and equitable compensation.

The hundreds of workers who have won their claims for compensation prove that it can be done. It takes determination and persistence. The struggle of textile workers for justice has made substantial progress. Further gains will require renewed efforts to remove the obstacles built into state Workers' Compensation laws.

The Union and the Brown Lung Association have recommended to the Congress that a federal program of compensation for brown lung disease be established. Until a separate brown lung compensation program is enacted it is essential that the state Workers' Compensation system be improved by requiring it to meet Federal standards. Legislation pending in the Congress would be a first step in this direction. It needs to be strengthened to assure adequate coverage for occupational diseases.

> **"I fail to see that the cost makes any difference when their health is ruined for life."**
>
> *Archie Campbell, President, ACTWU Local 254T, Columbia, S.C., testifying at OSHA hearings on the proposed cotton dust standard, April, 1977.*

The Employer's Responsibility

Over the long run ACTWU believes that a special fund—contributed to by the employers—should be set up by the textile industry under administration of the Federal government, as has been done in the coal mining industry for "black lung" disease victims. That will place the burden precisely where it belongs, on the employer and not upon the Social Security System.

The Union has proposed in Congressional testimony that the Black Lung Benefits Revenue Act of 1977 be used as a model for dealing with brown lung compensation. That Act was designed to eliminate the kinds of inequities, delays in processing claims, and litigation which have plagued disabled textile workers seeking payments under the state Workers' Compensation programs. It is time for Congress to recognize the same obligation to the victims of brown lung disease as it has to black lung victims.

The tragic experience of brown lung victims has demonstrated the failure of the state Workers' Compensation system to meet the needs of disabled workers. Federal intervention is imperative to assure equitable treatment for these workers.

If the burden of paying the cost of supporting brown lung victims were placed on the textile industry, it would provide a powerful incentive for the industry to clean up the mills. The industry must face up to its responsibility to prevent brown lung disease.

For more information, please write to:
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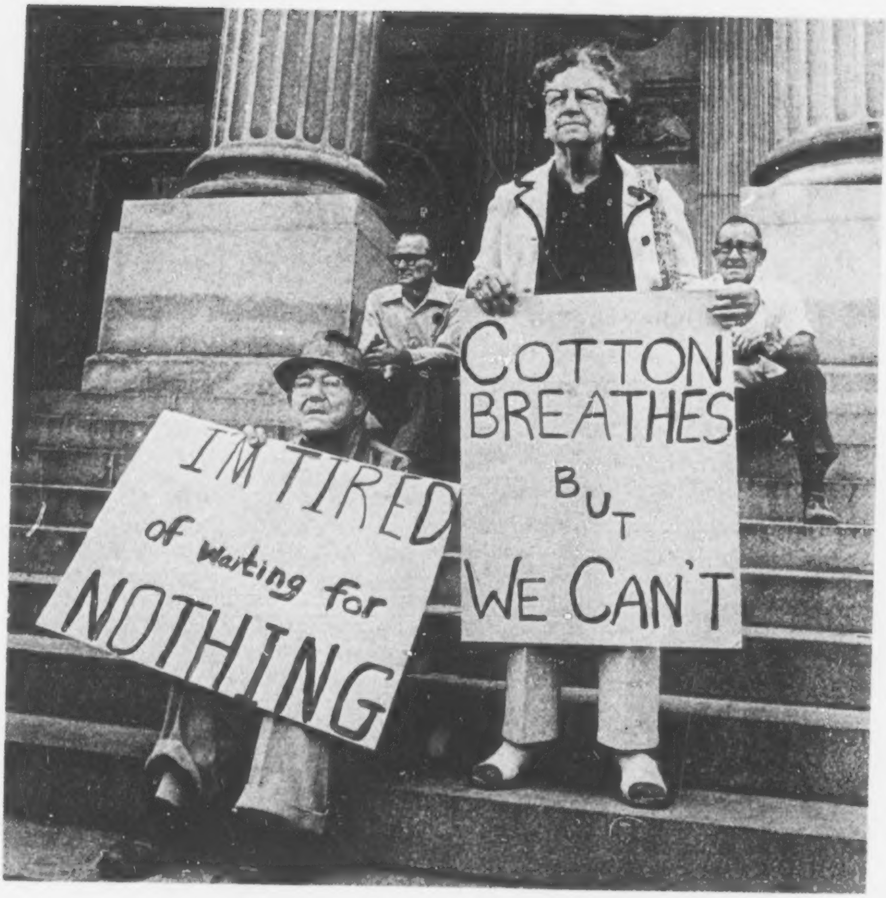
15 Union Square, New York, N.Y. 10003

Photos by Earl Dotter, American Labor Education Center.
Quotes reprinted with permission of *Southern Exposure*.
December, 1980

Opposite: Brown Lung Association members on the steps of the capitol building, Columbia, S.C.


IM TIRED of waiting for NOTHING
COTTON BREATHES BUT WE CAN'T

ACTWU
AMALGAMATED CLOTHING AND TEXTILE WORKERS UNION
AFL-CIO, CLC

15 Union Square
New York, NY 10003

MURRAY H. FINLEY President
JACOB SHEINKMAN Secretary-Treasurer

SOL STETIN Sen. Exec. Vice-Pres.
SCOTT HOYMAN Exec. Vice-Pres.

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MINORITY VIEWS

REPORT ON A REVIEW OF THE SCIENTIFIC AND TECHNOLOGICAL ISSUES IN THE REGULATION OF COTTON DUST IN THE PRIMARY COTTON INDUSTRY

SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT

The minority recognizes that some workers in particular working environments are susceptible to certain diseases. The hazards and related diseases vary from occupation to occupation both in severity and in level of direct correlation. Nevertheless, it is extremely important that this subcommittee maintain strong oversight responsibilities when the scientific evidence warrants action.

We take issue, however, with the timing of the report's release and with the tone expressed throughout. The hearing upon which the report is based was held on September 22, 1982, during the 97th Congress. Traditionally, and we think for good reason, subcommittee reports are issued in the same Congress in which the original hearing was held. This policy is a wise one, and is especially important in protecting the rights of the minority. To illustrate the problem, we would like to review our current situation on this report. First, none of the minority members who served on the subcommittee in the 97th Congress still serve on the subcommittee in the current Congress. In addition, the minority Counsel serving the minority members in the 97th Congress is no longer with the subcommittee. The result places the minority members currently on the subcommittee in the untenable position of appproving a controversial report without having the benefit of participating in the hearing or benefiting from the advice of the minority staff serving the subcommittee at that time.

We are being asked, subsequently, to support the issuance of a report in an informational and policy vaccum. We therefore have no basis upon which to judge the merits of the report's recommendations. We strongly disagree with this process, and feel it is indecorous for this subcommittee.

In addition, the minority disagrees with the tone in much of the report. In areas involving controversial issues where the scientific community is not in agreement (as in this case), we feel the impartiality of the subcommittee is vitally important. The respect of our Congressional colleagues, the scientific community, and the public is at stake here; rash, subjective statements and conclusions are not appropriate.

Again, the minority concurs that the regulations governing worker's exposure to cotton dust are of the utmost importance. We support the subcommittee's oversight activities in this area; it is unfortunate and regrettable that the report takes on such a polemical tone.

LARRY WINN, JR.
JOE SKEEN.
CLAUDINE SCHNEIDER.
ALFRED A. MCCANDLESS.

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